NAEB JOURNAL

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Those attending the 1961 NAEB convention in Washington will be able to visit the Lincoln Memorial, as well as other sites of historical and patriotic significance.

On the cover . . .

Esther Montgomery uses unusual models in teaching Shakespeare to high school classes in Nebraska. See story on page 33.

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Teaching Begins Over the Texas Microwave System

Author describes TEMP

In September of this year, eleven central Texas colleges and universities were interconnected by a microwave network for the purpose of sharing faculty resources.

Eight videotaped courses prepared by instructors from four of the cooperating schools constitute the system's "programing."

Officially titled "A Field Study in the Wider Use, by Means of Microwave Television, of Faculty Resources Among a Number of Institutions of Higher Education," the undertaking has been given the more manageable working title of TEMP—Texas Educational Microwave Project.

Representing a geographical spread of about a hundred miles, the system also represents an interesting and challenging admixture of campuses. Included are two state-supported four-year institutions and one municipally owned junior college. The other eight schools are all church related: four Roman Catholic, two Methodist, one Presbyterian, and one Lutheran.

Planning on the system began in 1958 under the direction of R. F. Schenkkan, director of radio/television at the University of Texas. Since that time, financing, selection of studio instructors and courses, scheduling, system construction plus a four and one-half month pilot transmission of two courses on a three-campus basis have been accomplished.

By R. C. Norris

Assistant director, radio/television, at the University of Texas.

Designed as a three-phase project, TEMP is now in its third phase. Phase I ended November 31, 1960, and accomplished its purpose by organizing the participating colleges and universities, the selection of a national advisory committee, the delineation of specific objectives, and the development of the FCC application, and its attendant construction permit.

Phase II, which extended from December 2, 1960, until August 31, 1961, marked the construction and operation of a system in Austin on a pilot, three-campus basis which transmitted two courses, **Introduction to Psychology** and **The Great Plains** to

Course	Instructor	Institution	No. of Institutions Utilizing Course
American History	David Trimble, Ph. D.	San Antonio College	8
College Chemistry	L. O. Morgan, Ph. D.	The University of Texas	9
Focus on German	Leroy Shaw, Ph. D.	The University of Texas	9
Great Plains	Walter Prescott Webb, Ph. D.	The University of Texas	8
Introduction to Psychology	Fillmore Sanford, Ph. D.	The University of Texas	10
Modern Mathematics	James Gray, Ph. D.	St. Mary's University	8
Music Appreciation	Marjorie Walthall, Ph. D.	San Antonio College	6
Science for Elem. Teach.	R. T. Gary, Ph. D.	Southwest Texas State College	5

TEMP Participating Institutions

Institution	Location	Brief Description
Southwestern University of Texas	Georgetown	Co-educational, 4-year, Methodist related. Graduate program
The University of Texas	Austin	Co-educational, 4-year plus Graduate School. State-supported
Huston-Tillotson	Austin	Co-educational, 4-year, Methodist & Congregational Christian related
St. Edward's University	Austin	4-year, Roman Catholic for men
Southwest Texas State College	San Marcos	4-year, Graduate program, Co-educational, State-supported
Texas Lutheran College	Seguin	4-year, Co-educational, Lutheran related
Incarnate Word College	San Antonio	4-year, Women's college, men admitted to Graduate School, Roman Catholic related
Trinity University	San Antonio	4-year, Co-educational plus Graduate program, Presbyterian related
San Antonio College	San Antonio	2-year Junior College, Co-educational
Our Lady of the Lake	San Antonio	4-year, Roman Catholic, men admitted to special programs
St. Mary's University	San Antonio	4-year, Roman Catholic, men. Women admitted to special program

the University of Texas, Huston-Tillotson College, and to St. Edward's University. This phase was also marked by considerable production activity in which the remaining six courses were produced on videotape for the full system operation in September.

Also in Phase II, attention was given to the research aspects of the project under the direction of Dr. Fillmore Sanford, who is on leave of absence from the University of Texas department of psychology to act as full-time project research director.

The project is as yet too youthful for research findings to be forthcoming. And while research was carried out during the pilot transmission, it is felt that it would be premature to publish research findings at this time. Instead, these preliminary results will serve as a guide for additional research during current operations.

Additionally, Phase II saw the successful formulation of the system calendar, and the closed-circuit class schedule was agreed upon.

Phase III began September 1, 1961, as scheduled with actual transmission of courses on September 18.

During the initial year, only instructional material is being utilized on the system. No attempt is being made, for example, to present enrichment materials to students. It would also be possible for a faculty member to present illustrated research findings to his colleagues throughout the system or to hold faculty conferences or seminars with some professors before the cameras in San Antonio and others in the Austin studio.

However, it has been elected to concentrate on sharing faculty resources through the instructional lectures for the first year.

One of the biggest problems connected with the project has been that of internal communication. With the best of intentions, misunderstandings have arisen within schools and between schools and the central administration because of faulty communication . . . either the lack of frequent communication or because of the use of an unfamiliar vocabulary or both. It was soon discovered, for example, that a number of faculty members, and some administrators, thought that a broadcast station was being planned because to them the word "television" meant broadcast only. The term "closed-circuit" escaped them. This confusion was erased through the publication of a glossary, a regularly issued newsletter, and through frequent visits by members of the central administration staff.

Other problem areas included a fear of loss of local autonomy and a general resistance to change. These problems, for the most part, have been overcome. Again, the newsletter and frequent meetings have been of considerable value.

But in order to give a more comprehensive picture of what has been accomplished to date, various facets of the project will be discussed under the headings of Studio Instructors and Courses, The Physical System, Scheduling, Financing, Personnel, and Future Plans.

STUDIO INSTRUCTORS AND COURSES

As in any sound teaching program or project, the teacher, the instructor, forms the hub around which all else revolves.

Early in 1960, eight instructors were chosen by representatives from the eleven participating institutions. These seven men and

one woman are the studio instructors for the TEMP courses.

No single criterion was applied in the selection, but the general rule was to seek out those qualified teachers whose courses were unique in content so that their course offering could be shared by the other ten schools. Dr. Walter Prescott Webb's course, **The Great Plains**, is an example in point.

The course, **American History**, on the other hand, represents a traditional offering on all eleven campuses. The idea here is to present a popular course from a central point, allowing a large number of classroom instructors to be freed from the necessity of lecturing to several sections and thus giving them time for research and individual student guidance.

Each of the studio instructors works with a television producer-director, and all of the closed-circuit lectures are pre-recorded on videotape.

All of the system's courses except **The Great Plains** are composed of two 45-minute videotapes per week. The third class meeting each week is conducted by a local classroom instructor. During this period, the classroom instructor may hold discussions, answer questions, administer examinations, etc. And as to the matter of examinations, each institution makes and gives its own quizzes. There are no system examinations. Each classroom instructor grades his own students.

Each classroom teacher has available a teacher's manual, which in most instances is made up of the studio instructor's scripts, plus suggested outside reading, glossary of terms, and "model" examinations which the classroom teacher may use in part if desirable.

In many respects, the extent to which any participating institution utilizes the courses presented on the system depends on that institution's local wishes. While all the courses are fully accredited, they may be offered on a given campus for non-credit.

No laboratory material **per se** is currently offered. However, some of the courses, such as **College Chemistry, Focus on German,** and **Science for Elementary Teachers** are so designed as to make a local laboratory section optional. Part of the reason for this option lies in the divergence of laboratory equipment throughout the system, plus the fact that different institutions grant laboratory credit on differing bases.

THE PHYSICAL SYSTEM

The system features a "round-robin backbone" which operates between the University of Texas in Austin and the Hildebrand Water Tower site in San Antonio. San Antonio commercial TV stations can feed into the Hildebrand receiving point for transmission into the round-robin backbone (see map). Similarly, lectures can be fed from the University of Texas studios into the system.

At the present time, only one channel exists.

Let us assume for illustration that it is 8 a. m. on Monday. Station KONO, San Antonio, feeds "Modern Mathematics" into the Hildebrand Tower Receiver. From here, the lecture goes to Austin, where it is both distributed to the three schools there and also continues on its round-robin trip back down the path to San Antonio. However, as it passes through Austin, a spur sends the lecture to Georgetown. On its way back to San Antonio, San Marcos receives the picture, and

a spur at Route 46 sends it to Seguin. When the signal again reaches Hildebrand Water Tower, it is distributed to the five schools in San Antonio.

At 9 a. m., the University of Texas originates "Science for Elementary Teachers" from its studios, and it is treated just as the 8 a. m. San Antonio feed was after it had reached Austin.

On February 6, 1961, the three-campus pilot system began operation. The main transmitter for this first system was located on the 26th floor of the University of Texas' Main Building, and from this location fed Huston-Tillotson and St. Edward's 12 kmc band signal.

Collins Radio Corporation installed the system using a 12 kmc transmitter with serial No. 1 and receivers with serial Nos. 1 and 2.

This interim system was made legally possible by an FCC rule-changing action dated October 21, 1960, which made frequencies available for the first time for an E T V microwave closed-circuit system. These frequencies had previously been reserved exclusively for Business Radio Service.

Later FCC action cleared the way for the licensing of the full system which permits the use of frequencies in the 12 kmc band for inter-city transmissions and frequencies in the 6 kmc band for use between urban areas. Utilization of these frequencies for additional systems will be granted by the FCC on a case-by-case basis.

On April 25, 1961, Collins was awarded the contract for the full system.

SCHEDULING

Scheduling was not a simple problem. Some of the schools regularly began their classes on the hour, some ten minutes past the hour, and a few began classes on the half-hour.

Some of the schools scheduled no Thursday morning classes after 9 a. m. because of convocation or chapel.

Not all of the schools observed the same holidays, nor did they all begin classes on the same day in September and F e b r u a r y. Fortunately, all do operate on a two long-semester basis.

It would have been a registrar's nightmare, had it not been for the cooperation which prevailed and still prevails.

The eleven schools have now agreed to begin classes on the hour and to observe a uniform system calendar.

While every effort is being made to avoid technical mishaps, the eventuality of a technical failure has been taken into consideration by arranging "make-up" periods for tape playbacks. It is also the duty of the classroom instructor to fill in with a live lecture in case of equipment failure.

FINANCING

T h e largest single financial assistance came about through a National Defense Education Act, Title VII, Part B (dissemination and demonstration) contract. The first contract issued by the Department of Health, Education and Welfare, U. S. Office of Education under NDEA Title VII was for Phase I of the microwave project. This contract, dated July 1, 1959, was for $8,083. On December 1, 1960, a contract covering Phase II and a letter of intent covering Phase III were issued for a total amount of $331,809.

The second largest source of financial assistance has been the Ford Foundation. The teaching salaries of all eight of the system's studio instructors have been paid through Ford Foundation grants to the instructors' institutions, i. e., the University of Texas, San Antonio College, St. Mary's University and Southwest Texas State College.

Each participating school also pledged $5,500, with the University of Texas pledging $30,000, for a total of locally pledged money in the amount of $85,000 through the end of Phase III.

However, the above sums have not been sufficient to cover all the costs involved. It has been necessary, for example, for each school to buy its own campus

distribution system which averaged $1,445 per campus.

It was also necessary for each school providing a studio instructor to purchase the videotape for that instructor's course.

PERSONNEL

It would be impossible in an article of this length to list and give credit to everyone who has worked, given ideas or counsel to the project. However, mention is given here to key personnel and to key jobs.

Administration—The central administration of the system consists of R. F. Schenkkan, project director; R. C. Norris, project coordinator; Dr. Joe Bailey, administrative assistant; and N. W. Willett, chief engineer.

Early in the planning stage, a "campus coordinator" was selected from each institution. These individuals, along with the presidents of the cooperating schools have formed the administrative and planning core for the system.

One of the first objectives of Phase I was the formation of a national advisory committee, whose function has been to assist the system planners in the formulation of objectives and in the means of carrying out these objectives. The members of this committee are: Dr. Robert C. Anderson, director, Southern Regional Education Board; Dr. Kenneth Christiansen, director, School of Journalism and Communications, University of Florida; Dr. Harry J. Skornia, formerly president, National Association of Educational Broadcasters; Dr. John F. White, president, National Educational Television and Radio Center; Mr. Allen Ludden, director of program services, CBS radio stations; Mr. A. Earl Cullum, Jr., consulting engineers; Reverend L. V. Britt, S. J., dean of College of Arts and Sciences, University of Detroit; Dr. Wesley C. Meierhenry, assistant to the dean, Teacher's College, University of Nebraska; Dr. John Ivey, president, Learning Resources Institute.

Engineering—Working under Mr. Willett are two microwave maintenance engineers. The consulting engineer for the system is A. Earl Cullum of Dallas.

Production—The system's production staff is composed of Hugh Greene, TEMP production supervisor in Austin, and Bill Oxley, TEMP production supervisor in San Antonio. Lyle Hendricks and Wes Lambert serve respectively as art director and staging and lighting supervisor, while also directing one each of the courses which originate in Austin. Additionally, Franklin Taylor and R. C. Norris serve as system producer-directors.

FUTURE PLANS

On May 17, 1961, the administrators of the eleven participating schools met to discuss future plans for the system. It was recognized that a second channel was highly desirable. Such a second channel would afford needed flexibility in scheduling plus making possible the offering of additional courses.

It was also recognized that additional course offerings should be forthcoming as soon as practical.

No definite plans have been made as yet to extend the physical distance covered by the system. It is doubtful that the system could be extended without converting to a heterodyne signal. If linear expansion does come about, it will probably be toward Laredo to the south, and possibly on to Monterrey, Mexico.

The Silent Partner

Classroom teachers will adopt tv techniques for daily use

By **Stanley Handleman**

Instructor in radio and television, Brooklyn College, New York.

Is there a man among us who does not know the catechism of ETV? Included are the canons of "no significant difference," "master teacher," and "visual enrichment." I don't mean to imply that these terms are incorrect or even trite. They must, of necessity, be included in any discussion of the merits of television teaching in which its advocates try to sell the medium to hard-headed administrators and keepers of the school cash-box. If our answers seem endlessly repetitious it is because the questions which prompt them are predictably recurrent.

How many of us would be wealthy beyond belief if we got a nickel every time we answered the following questions: "But what about the lack of feedback between TV instructor and students?" "Are you making actors out of teachers?" "What's wrong with a good film instead of all that costly TV equipment?"

Although we must answer these questions with patience and react to them as though they have been asked for the first time, isn't it possible that we channel too much of our energy toward satisfying doubts which will disappear only when actual results are seen? What is more important, we concentrate our attention on one group at the expense of another which is really going to make or break us and instructional television. I'm speaking about our silent partner, the classroom teacher.

If one reads the extensive literature in ETV published during the past ten years, he will find that proponents of the use of instructional television are aware of this problem. Many of the experiments done throughout the country on all educational levels often conclude their reports with a neat paragraph which goes something like this: "Of course, any success which instructional television may have rests upon a broad base of teacher support. Not just the TV teacher, but the backbone of any educational system, the classroom teacher."

Quite true! Of course, what's wrong with this experimental "P.S." is that the researchers rarely tell us just how the classroom teacher is to be won over by making her an active partner in this

new educational enterprise. It is true that in some cases an appeal is made for collective program planning. The television lesson is created by a committee composed of the TV teacher and other classroom teachers who teach the same subject that she does. This idea certainly makes sense in terms of bringing the teacher in the classroom in closer psychological proximity to the medium. It allows her to throw some of her ideas into the collective "pot" and then to see them returned to her pupils via the TV screen. In this manner, the ideas can be presented in a compact and imaginative manner which utilizes the advantages of the medium of television.

This may be an enlightened philosophy, but it is close to pie in the sky simply because most schools either cannot or do not use it. I think that we are guilty of unwarranted optimism, if not mass self-delusion, if we smugly present such plans in research journals and then walk away believing in their ultimate acceptance by a majority of teachers who work in systems and schools which will never follow them.

Another approach which may yield results of a more solid nature is one which became evident to those of us who teach educational television at Brooklyn College. The department of speech and theater of the college offers, in addition to its undergraduate work in TV, two graduate courses in educational television. These courses are given through the teacher-education division of the board of higher education of the City of New York. This division underwrites the cost of graduate training for resident teachers in the New York City Public Schools. Therefore, almost all of the students enrolled in this program are practicing, licensed teachers. These teachers are interested in improving themselves professionally through the attainment of the master's degree or through an accumulation of graduate credits.

Our educational television courses in this program attempt to give a comprehensive plan of study in one year. Lectures in the philosophy, uses, and techniques of ETV are given in addition to an introduction to some of the major experiments being carried on in instructional television throughout the country. After this theoretical background is given and the smoke clears as the result of somewhat heated discussion, the students are exposed to basic television terminology and techniques, plus methods of writing for ETV.

The students are required to write a number of educational TV scripts which are evaluated and returned. The best of these are produced in our own closed-circuit studio. All of the production, operations, and performance areas are handled by the students under our supervision. Once given, the productions are dissected for their strengths and weaknesses with suggestions for improvement coming from the instructors and the students.

It was our original idea that these courses should serve two purposes: To acquaint teachers with the potentials of instructional TV for superior teaching, and to train teachers to translate ideas into production and thus become resource people in their own schools when and if they obtain television facilities.

Although we believe that these goals are reached at the end of each year, we are slowly coming to the conclusion that another goal is being reached. Many of the teachers in the class tell us that much of the practical, immediate

value of the courses comes in the day-to-day **classroom** teaching which they do. They tell us that the television scripts which are produced introduce imaginative teaching techniques which they can use in their work. Let me give you a few examples of the programs which have stimulated our teachers to adopt the TV techniques in daily teaching.

A young lady who teaches speech and dramatics in one of the New York City high schools presented a lesson entitled "How to Build a Stage Flat." In her presentation, she spoke about the esthetic function of stage setting. She listed the requirements of a good set and followed this by listing and showing the necessary materials for the building of a simple stage flat. A short demonstration followed in which she built a miniature flat. Teachers in the class who also taught speech and dramatics watched the demonstration, took notes, asked questions of the TV instructor, and then went to work in their own classes. Some told us that they had each student in the class build his own stage flat.

Another lesson was "How to Read a Map," in which a junior high school teacher taught map reading methods to youngsters in an imaginative and stimulating way. After displaying a real map to the children, she defined such terms as border, capital, and country. She introduced the concept of map symbolization and gave the accepted symbols for each of the defined terms. Following this section, the teacher asked each of the children to draw a map of an imaginary country with her. As she developed the map by drawing in its cities and borders, she asked the students to follow her on their own maps. The lesson was of great value to a number of teachers in the class who teach social studies in that it gave them a new technique to present fundamental material.

"Beauty is a Habit" was a program in which a teacher in a vocational high school for girls presented a lesson in beauty care for adolescent girls. Such things as proper skin care, use of cleansing creams, correct care of the hair, and the techniques of applying makeup were presented. The teacher used one of her own students as a live model. This presentation was considered an important adjunct to regular teaching by some of the teachers who taught in similar schools. Many felt that such a lesson could establish a rapport between students and teachers which had not been forthcoming until they introduced the ideas presented in the TV lesson in their own classrooms.

Obviously, every television presentation could not be adapted by the classroom teacher for her own teaching. Indeed, one of the unique advantages of instructional television is its ability to utilize materials and procedures which cannot be obtained nor used by the average classroom teacher. A program on nuclear reactors, for example, was built around a working model which a gifted young instructor had built at home. Few teachers would have the time or the ability to construct such an aid for classroom work; however, there are other simple visual aids which they could use for such a project. In this way the teacher improves her teaching and bolsters her sense of belonging to the TV project.

If we prepare our programs with the needs of the classroom teacher as well as the students in mind, we will not only broaden the base of support for educational television, but will give our "silent partner," the classroom teacher, the recognition she deserves.

Diary from Nigeria

Strides made in one year

(Editor's note: In the March-April **Journal**, Mr. Arms described the circumstances under which WNTV came into existence and made some preliminary observations about the work to be done. That report was written in August, 1960.)

By George L. Arms

Consultant to the Government of Nigeria in the development of TV there. Formerly operations manager, KETC, St. Louis.

OCTOBER, 1960

An advisory committee within the Ministry of Education, Western Region, meets twice a year and has considerable influence—although neither policy nor fiscal control—over activities of the TV section. A programing subcommittee meets to approve schedules of programs, and it has suggested areas where TV programs would be useful at various levels in the schools.

From this committee came the first problem to be attacked by me in my new role as educational TV advisor to the Ministry of Education. The problem was film.

It was stated that all efforts to secure film useful for school television purposes had failed, and a makeshift schedule of films from the files of UKIS and USIS had been used which, interesting though they were, did not happen to be designed for the rather specific objectives of school usage. Inasmuch as the general objective of the schools' program was an hour a day, of which one-half was to be film, and one-half live, the absence of any usable film was a serious handicap.

The problem was more apparent than real. It was not so much film as film cleared for television, and the solution lay in knowing whom to contact. It was not the easiest thing in the world to do from six thousand miles away but enough contacts materialized to provide three completely new film series for the fall schedule and the groundwork was laid for a further supply in 1961. Arrangements were completed with BBC-TV, Preomantle Co. (for the Educational Testing Service) and CBS, International, all of whom demonstrated a significant interest in the experimental nature of the project and the tremendous potential inherent in the situation. In order to meet the deadlines, films had to be flown in, at great expense, and two of the three

series arrived on September 26, one week before airing and nine weeks after negotiations had started. Coronet also was making films available, but a longer lead time existed, since these were films to be integrated into a live series not scheduled until January, 1961.

While this was going on, attention was also given to the matter of live programing. Three half-hours a week plus a news program had been started earlier, but the schools' TV commitment was for five hours a week and the tactics of the situation dictated the necessity of providing that much no later than October. Obviously it appeared best to continue the balance of one live program with one film each day. Plans were made on that basis.

It should be noted at this point that both ICA and the government of Western Nigeria had agreed that the primary function of the TV specialist should be advisory, helping to frame program and production policy, and entering into the operational framework only insofar as his presence contributed to the on-the-job training process. Two TV producers had been allocated by the civil service, and one of them was on the job when I showed up in Africa. He was a fine young man who had previously taught Latin. As I analyzed the fall schedule, it seemed very possible with a considerable amount of on-the-job training to achieve it if each of the neophyte producers took two live series, under my supervision, and if I produced and directed a fifth series and the area of news.

Another technique that I thought might be useful was the development of teacher-producers, people who had done a series, who had some visual sensitivity, and who had time to devote ten weeks a year to work with other teachers in content areas somewhat related to their own. Money was available to hire them on a contract basis; money was available to shoot film for insertion into live programs now and then; money was available to make lectures, show cards, etc.; the services of the Indiana audio-visual team (also in the area through the courtesy of ICA) were available to give workshops and consult with producers; and the whole project, still capitalizing on its newness, had the support of the Ministry. The talent was selected and the buildup began. One series fell by the wayside and had to be replaced. One series which involved an artist had been forgotten, and had to be inserted when the artist showed up ready, anxious, and determined to go. This meant that on one day of the week for a time there would be two live programs back to back, a new departure for African television. There was uncertainty until the last minute about the arrival of the film series. The teachers' notes had to be prepared and sent out to the sixty-five schools possessing television sets, and then had to be hastily added to when another twenty-five schools suddenly received TV sets as Independence Day gifts from the Italian Consul. (These schools are in Lagos, capital of the country.) The second TV producer never showed up, having been diverted to another important job as the Civil Service tried gallantly and desperately to meet its commitments with the slender supply of educated personnel. And finally, Matthew Akpomodiare, the young trainee producer who had been developing rapidly into a good solid craftsman, fell ill the week before all the programs started. He was taken to the hospital, kept for two weeks and released with

instructions to stay home for awhile. I was then the entire section.

The programs got started on schedule and continued. I took over the operational role and produced all the series. I informed the Ministry that the presentation of the program was more important than any other facet of the immediate situation and that I was happy to be a working part of the operation. At the same time, I filed notice that the training function of my job was not being fulfilled, except with respect to the development of teacher-producers, and I hoped that attention would be given to this aspect of the situation prior to the next sequence of programs. This was the schedule of school programs that began during the week of October 3 and continued for nine weeks:

Monday	1:00 p. m.	**Man and the Earth's Resources** . . . a live geography series with Akin Mabogunje, lecturer at University College, Ibadan. The principal visual elements were slides, sketches, and maps.
	1:30 p. m.	**Science and Life** . . . a kinescoped series from BBC-TV consisting of an overview of the earth, its structure, the planets, and life on the earth.
Tuesday	1:00 p. m.	**Mammals You Should Know** . . . a live series on animals of Nigeria presented by R. B. Walker on the staff of University College, Ibadan, and instrumental in the development of Nigeria's first and only zoo. Visual emphasis naturally was on the animals.
	1:30 p. m.	**Horizons of Science** . . . produced under the aegis of the Educational Testing Service. This was the very expensive effort to give students an estimate of the boundaries of science in terms that junior-high students could understand.
Wednesday	**1:00 p. m.**	**Careers** . . . a live series with five to ten minutes of location film inserts dealing with vocations and career emphasis in the new Nigeria. Presented by the wife of an expatriate scientist who developed into a first rate producer, Mrs. E. Park.
	1:30 p. m.	**Science and Life** . . . a repeat of Monday's film.
Thursday	1:00 p. m.	**The News and You** . . . weekly live look behind the headlines couched in terms most appealing to the school population. Produced by the educational TV advisor with the help of the Indiana audio-visual team.
	1:30 p. m.	**You Are There** . . . the old CBS-TV series used for its impact value in getting across to pupils and teachers what television can mean.
Friday	1:00 p. m.	**Know Your Crafts and Craftsmen** . . . Nancy Stanfield, artist and writer, did a how-to-do-it series specializing on crafts indigenous to Nigeria. Slides, pictures, demonstrations featuring the craftsmen themselves were the heart of the series.
	1:30 p. m.	**Experimental Series** . . . This time was reserved for trying out series tentatively scheduled for 1961, trying out artists who could be used, and attempting to get short-term reactions from the viewing audience as to the efficacy of some of the ideas. There were programs scheduled on the teaching of English, foods and nutrition, audio-visual techniques, etc.

FEBRUARY, 1961

The schools' television for the first term of 1961 has just started. It is a point in time identical to that at which the last report was filed, in that a full term of programs have been presented and the staff work of developing new series has been followed to the point of starting each series on television again. It is impossible to make a sort of progress report, noting how things have changed, or not changed, since October 1, 1960.

At that time, I had become operational to the extent of producing all five of the live series, and acting as presentation director when the programs reached the studios of WNTV. The illness of Matthew Akpomodiare, the inability of the Service to release the other trainee from another assignment, and the resignation of Christopher Kolade (to become comptroller of NBC, Western Region, Nigeria) as senior education officer or head of the department, meant that temporarily I WAS the department.

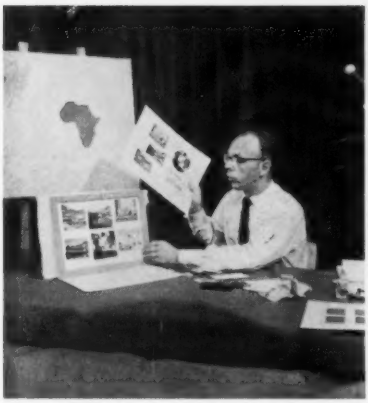
This was not a particularly good situation. Much of the effort of ICA overseas goes toward the training of local personnel, and ICA technicians are repeatedly cautioned against participation, except in moments of crisis, or as part of a training scheme. It was agreed, however, that this was a crisis. If I did not produce the programs they would not get on the air, and the experimental development of examples and techniques of ETV particularly useful to the Western Region of Nigeria would be halted. Furthermore, Nigeria celebrated its independence on October 1, 1960, and it was thought that fulfillment of these educational obligations was particularly important at that time, even if the rules were bent a little. So with the approval of ICA headquarters in Lagos, I produced the programs as scheduled. There was one live program each day, and one film each day, for a total of an hour five days a week. In nine weeks, forty-nine live programs were produced, and forty-five films were shown. (For the mathematically inclined, this was indeed more than one a day. During the term it became advisable to produce some samples of the kinds of programs to be scheduled during the year 1961. This led to live programs back to back on successive Fridays, another First in Africa.)

As the nine weeks wore on, the operating and administrative situation improved. Matthew Akpomodiare came back to duty during the second month and got a considerable amount of practical training during the remaining weeks. The fact that he was not burdened with the full responsibility for a series enabled me to move him around from one assignment to another, and Matthew learned a good deal about floor managing, vision mixing, sound mixing, and announcing—all valuable areas of knowledge for a fledgling producer.

About the middle of November, a new senior education officer was assigned. This officer, Mr. Rotimi, made the point that he did not understand radio and television and therefore would approach the problem from the viewpoint of an experienced administrator, which he was. He then proceeded to learn a great deal about radio and television so that he could endeavor to fit what had to be done into the ponderous structure of an operating Civil Service not geared to view speed with any enthusiasm whatsoever. It also fell to his lot to find reasons and precedent for some of the things I had done

because they were necessary to the production of television programs, even if the reasons and policies were not specifically approved by the policies of the Civil Service. His struggles to reconcile the lack of policy with the necessities of day-to-day programing and production were considerable. He was not cheered at all when I commented cheerfully that red tape was not indigenous to Nigeria, but that both quantity and quality would compare favorably with that encountered in the United States and Great Britain. But as time wore on, he got the files straightened out, and became a tower of strength in the effort to get adequate lead time. He was also firm in his conviction that I should revert to the advisory status as soon as possible. To that end he waged a campaign for the second producer, which was capped by the arrival of Marian Mako, formerly of the general publication section, on January 1, 1961. We were now up to strength.

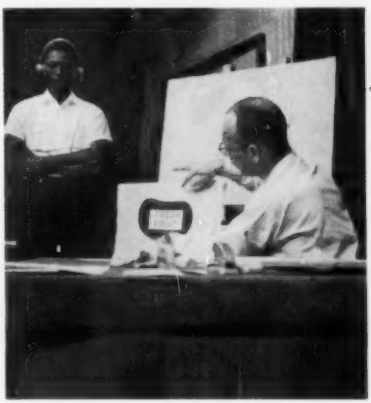
Programwise, the situation was now thus: While producing the fall series, I had moved through the various committees approval of a schedule of five series of live programs to start the first term, 1961. Those series were **History, Audio-Visual Techniques, Technical Education, The News and You,** and **Foods and Nutrition. Audio-Visual Techniques** was to be provided by Dennis Pett of the Indiana University Audio-Visual Team, in Nigeria on contract with ICA. Because Pett was an experienced television director, in addition to his other talents, this was a series which would carry itself. **History** (or rather a survey of civilization) was made possible by a gift from **Life** magazine of a complete set of **Life** filmstrips, many of which dealt with the past. I chopped them up



Dennis Pett teaches a course in audio-visual techniques.

into slides, which made a good-sized library available to the lecturer for quick and easy visualization. In its first program the series demonstrated the essential (and economically feasible) attribute of being a genuine television program. **Technical Education** was developed to serve the need for continuous indoctrination of school children to the new careers, new industries, new vocations, and new educational requirements of

Floor Manager Davis and Mr. Pett.



a growing Nigeria. Its producer-lecturer was Harry Kirk, principal of the new Ibadan Technical Institute. **News and You** was to be continued, with the cadre of participants which had now been trained and had acquired some experience. **Foods and Nutrition** was scheduled to meet the burgeoning need for re-education of the food habits of great masses of people.

Production assignments were confirmed, formats written, teachers' notes dispatched to the schools, and the presentations were begun. Actual direction of the programs, in the studios of WNTV, was handled by Tundi Animashuan, who had started the fall term, 1960, as vision mixer and had developed a real flair for directing, at least of the types of programs I favored. Production during the first week was good to excellent.

This represents a remarkable change in four months. The basic production jobs are being covered. I am available to confer with all, and can fill any spot in an emergency. The alertness, enthusiasm, and willingness to take responsibility of the young producers and the TV director bodes well for increasingly mature and educational, sound television programs. On paper, things look good.

There are major problems. Nobody dares get sick. There is a reliance upon me which makes me wary about absenting myself even for an hour from the production situation. There is no one available for advance planning. I provided Mr. Rotimi with a set of program recommendations for the second term, 1961,

Mrs. Ronke Doherty (standing) discusses a problem with Producer Marian Mako during the rehearsal of a program on foods and nutrition.

with the hope that he could nurse them through the advisory committee. This is not a sound procedure however, because a staff member should be available to nurse each series from the beginning. I am still ordering the film, and have just acquired enough so that a preview committee can be set up, with the hope that it will function rapidly enough to keep the necessary lead time required to get film from the United States to Nigeria.

It may well be that top-level administrative action may brighten the training picture through increasing the staff or regularizing the tenure of the officers. It will then be possible to attend to another major facet of the business of educational television, i. e. utilization. In a report I filed I said:

"No matter how good the programs are, they are useless unless they are received in schools, and unless the teachers interpret them properly to the students through the teachers' notes. Here is a list of some of the problems regarding utilization which have to be solved before education by television becomes the powerful tool it must in order to justify its expense.

1. More schools have to have television sets. This means:

a. More schools have to have electricity.

b. The authorized installation area has to be enlarged.

c. The primary schools must be authorized television sets, or some formula worked out so that primary schools will know of the location of a television set which can serve them.

2. The television sets have to work.

3. The sets have to be turned on for the program.

4. The programs must be evaluated.

5. More programs must be presented."

There are some interesting similarities between this list and other lists I have had occasion to prepare at other times and under other circumstances. Regardless of that, it contains problems which grow from the needs of the situation in the Western Region of Nigeria, and which must be solved, if educational television is to mean anything significant after the experimental period is over.

There are some indications that these problems are capable of solution. A workshop has been scheduled involving representatives of all the schools having TV sets. At this workshop, the use of teachers' notes, the program schedules and other administrative details concerning the relationship of schools to television will be discussed. Furthermore, at its last meeting, the schools' television advisory committee went on record with a recommendation that schools who do not **respond** to questionnaires may suffer the loss of their sets.

So this is the situation in February, 1961. The programs are on the air; the amount of TV time is up one-third (through the expedient of showing each film twice, allowing some freedom of choice by the schools); the production pressure is lessened.

JUNE, 1961

Personnel was one of the aspects of the situation which gave me satisfaction during the first term, 1961. In addition to the achievements of Tundi Animashuan, mentioned previously, Matthew Akpomodiare began to demonstrate solid achievements and handled his programs well. Marian Mako proved to be a real find. By the middle of the term she had enough of a grip on the essentials of the craft to do her

formats and conduct her own rehearsals. By the end of the term she was able to handle the vision mixing (or, as we call it, the switching) for the live programs.

The programs themselves would have done credit to many an American ETV station. The news programs, up to 50 per cent film, showed signs of being orientated to the children in the schools. The nutrition series bore a close relationship to an old-fashioned TV cooking show, but every menu was of vital importance to the very lives of the young people watching. The technical education series was important as the first of what must be many efforts to condition educated people to the dignity of skilled work.

Production was almost universally smooth. I had won over the studio crew to the virtues of two rehearsals, one for the benefit of the teacher, and as a result there were very few occasions on which the cameramen did not know exactly what they were to do, a considerable virtue when communication in a second language over the usual inadequate intercom was involved. On most days I could sit in a corner and attempt to maintain the fine line between helpful criticism and overt guidance. Most of the time the correct procedure was for me to keep my mouth closed, which for me was difficult.

Another aspect of the situation which gave me satisfaction was the workshop. Two weeks after the programs got started some sixty-five teachers and administrators from forty-five schools attended a six-hour workshop devoted to the use of television programs in the schools. They listened to lectures on the importance of the experiment in which they were participating; they got some much-needed information on the tuning of the television set; they discussed the programs currently on the air; and they had a quick trip to the studio to see and learn something about the equipment. In the question session at the end, they indicated some definite interests in programs of the future.

From my point of view, one of the principal virtues of the experience was that my participation was limited to an explanation of the equipment at the studio. The workshop was planned by Nigerians, and carried through by Nigerians. There were, however, some other virtues. The flow of evaluation sheets promptly tripled. This was not as impressive as it sounds, because the flow had been of minute dimensions, but it did indicate a quickening of interest in reporting, if nothing else. Also there was evidence of increased interest in getting sets repaired, and increased complaints about the difficulty in so doing.

From the standpoint of organization, programing, presentation and utilization, there were some signs of progress. There were also signs of danger.

The perennial weakness in the staffing situation made itself apparent again. Midway through the nine-week schedule of telecasts, Matthew Akpomodiare was made acting head of the section. In a sense, this was a most satisfactory development, because Matthew was the first person since Christopher Kolade to have real training and understanding for television. On the other hand, he also had responsibility now for radio, which, coupled with his administrative duties, meant that he was no longer available to produce programs. Consequently, Marian Mako and I divided up his programs, and at the end of the term the staff situation was just where it had been at the

beginning, with one exception; at the head of the section was a vigorous young man with some practical experience and some positive ideas about what was needed to do an adequate job for the Ministry.

It was becoming increasingly evident, however, that any consistent effort to develop live production of programs tailored for the Nigerian schools would be materially affected by the stability, quantity, and quality of the available staff within the Ministry.

Another point of increasing concern was the distribution and operating condition of the television sets in the schools. Since the maintenance guarantees had all expired, schools were forced to deal directly with the companies involved to get their sets repaired. For many of the schools the cost was prohibitive. The result would be fewer and fewer sets in operation.

The installation of new sets had diminished. Most of the schools within convenient range of the station which had electricity had TV sets, and as electricity was gradually made available a trickle of schools still applied for installation. There was considerable doubt as to where the television signal penetrated satisfactorily, and only upon proof of satisfactory reception would the Ministry authorize new installations beyond the approximate Class A coverage pattern. I had promised myself (and others) that I would load a TV set into my car and make some primitive tests, which could be used as a basis for further installations. This I have been unable to do, because of concern for production and training.

It had developed that, while things went well with me sitting in a corner of the control room, it was not a good idea for me to get much farther away than that. Problems of camera placement, of lighting, of effective display, of last minute revisions kept occurring. I tried to allow the appropriate people to attack these problems pragmatically, up to the point at which the program itself was jeopardized, a situation which developed fairly often. I had to be readily available to function in place of any member of the staff who was ill or unavailable, a situation which also developed fairly often. I had also to be readily available to calm people down in moments of crisis, which seemed to develop too often. As with any group of young people in the world, enthusiasm was always at the boiling point and it required all my skill and patience to prevent sincere emotional clashes from delaying or destroying rehearsals. It was a situation which nothing but time and stability of employment would cure, but it meant that, at least through the first term, 1961, I had to be within hailing distance all the time.

A final point of considerable concern was the matter of utilization, which as always was related to choice of subject matter. As it became apparent that the experiment was going to be successful, it also became apparent that solid, substantial use of the programs would depend upon the amount of encouragement and pressure generated by the inspecting officers of the Ministry of Education. Obviously these people would not bring pressure to bear upon schools to have their TV sets repaired and to use them unless they were convinced that the subject matter of the programs was closely related to the syllabus material being taught in the schools. This meant a whole series of planning sessions, a coordinated scheme of program de-

Chief S. L. Akintola, Western Region premier, takes a keen interest in the television camera at Station WNTV.

velopment, and a scheduling of TV lessons for perhaps a complete year in advance to allow schools to modify their timetables to take advantage of them. If these things were not done, the Ministry of Education would find itself in the position (comparable to many American installations) of having an available expensive tool, which could do important things, being used for unimportant things.

Underlying the whole matter of utilization, however, was the basic problem of research. Planning committees would be unable to work with any degree of confidence until they had a considerable amount of information about details of reception, impact, communicability, etc. For instance, I had a hunch that films using the American language, designed for the upper elementary levels, would be understood by Nigerian grammar (high) school students who were generally a couple of years older. It was only a hunch, and there was some indication that the visual quality of a film more than made up for its American accent. There was also some indication of an amazing adjust-

ment to the American pattern of speech as a series progressed. What the real limitations were, however, to communicating in American English to Nigerian students conditioned to English English, or a Nigerian version thereof, nobody had the slightest idea.

Furthermore, there were some indications, from other areas of scholarship, that Africans may not be as visually sophisticated as could be expected, but there did not seem to be any real proof of this, and there was no information as to what, if any, impact it would have upon the learning process. On a considerably more elementary level, information was needed as to what happened when the set was turned on, what the attention span seemed to be, etc. Some of this information could be gathered by visits to schools, and I promised myself faithfully that I will try to arrange for that during the second term, other factors permitting. But nothing takes the place of research, and of research there was none.

So this was the situation as of June, 1961. Some aspects of the experiment were successful. Educational television programs, both of instructional and enrichment nature, could be planned and produced, of a quality comparable to similar programs in the United States. Technical facilities were adequate. Personnel were alert, responsive to instruction, but for various reasons liable to abrupt changes in positions. The programs were extraordinarily popular with a few schools, but would have to be stronger in their teaching content and supported more strongly by the inspectorate to be used by the majority. Maintenance was a problem, and long-range planning an increasingly necessary adjunct if the experiments were to be translated into an organ of permanent value. It was up to the government at this point to decide what it wanted to do.

Certain things happened inevitably. Matthew Akpomodiare, upon assuming his post as acting head of the broadcasting section, established as a premise the fact that only those live programs would be produced for which there was staff available. He recognized that it had been necessary to maintain a full schedule of live programs during the demonstration phase, and for that achievement it had frequently been necessary to call upon me for direct services. That period had now ended, according to Mr. Akpomodiare, and the section must plan to stand on its own feet. Accordingly, he directed that the live schedule be reduced to three programs per week for the second term of 1961. The total number of hours on the air was to be maintained at seven and a half per week, which was the same as during the first term, and the film repeats were kept in the schedule, but film was used to fill out the gaps caused by the reduction in live programing.

Meanwhile a series of reports were filed calling attention to the necessity for some guidelines, and some implementing procedures if school television was to expand, or become permanently useful at its present level. The net result of these activities was a meeting scheduled to discuss staffing, budget, utilization, and other problems affecting school television.

Thus the first phase of my participation in TV in Nigeria comes to an end. It will remain for the future to show to what extent I am able to put the knowledge and experience gained by my first year overseas to the service of the government.

Broadcasting As a Literary Art

By **Edward Rosenheim**

Associate professor of humanities, University of Chicago. This was an address before the 1959 NAEB convention in Detroit.

It is generous of the NAEB to assign topics to its speakers and thus spare them the trouble of dreaming up their own. I confess to some initial embarrassment, however, on discovering the title which has been given to my own remarks—not enough embarrassment, to be sure, to prevent my exploiting this chance to make a speech, but sufficient to make me uneasy lest, in an effort to speak the truth, I annoy, or even alienate, some of the good friends I have in this organization.

Through a fortunate chance, however, I am able to talk to you today without personal hazard. For it was recently my privilege to spend a good deal of time inspecting the famous Schultz papers in the Manuscript Room of the Library at Midwestern University. As most of you know, these papers are a wonderfully rich collection, posthumously brought together, from the correspondence of Professor Algernon Swinburn Schultz, for many years holder of the Titmarsh Chair of Humane Letters at Midwestern and one of the most influential, if controversial figures in American academic life. Shortly after his sudden and tragic death (he was, you will recall, fatally impaled while attempting to pat a rabid goat), his widow donated to the Library at Midwestern the bulk of the letters which make up this collection; this original gift has been invaluably augmented by the taste and assiduity of its custodian, so that it is today a lucky scholar who enjoys, as I did, unlimited access to its delights.

During his long lifetime, Professor Schultz numbered among his correspondents such figures as Wendell Wilkie, Igor Stravinsky, Jayne Mansfield, Harlow Curtice, Jack Kerouac, Norman Vincent Peale, Art Linkletter, Winston Churchill, and Gil Hodges. Happily, I was able to browse at random and at some length amongst these goodies—discovering, as I did so, that Professor Schultz's exchange of insights with some of his humbler correspondents were quite as illuminating as those he enjoyed with more illustrious figures.

Thus it happens that I have chosen—not improperly, I hope—to share with you a transcript which I have made of a correspondence between this unusual man and an erstwhile undergraduate student of his, one Homer

Smallwood. Of S m a l l w o o d's achievements and condition I have no more knowledge than that provided by the documents I shall shortly read to you. The relevance of his situation, and of Professor Schultz's remarks upon it, to our common reason for assembling here will, I hope, rapidly become apparent. I have the permission of the curator of special collections in the library at Midwestern to read these letters, although, alas, not to make them available in printed form, since a current Ph. D. candidate at Midwestern contemplates precisely this procedure in an effort to secure his doctorate.[1] Accordingly, I shall ask your indulgence for an address this afternoon which must not only be read from a prepared script but which is couched in the language of another man, now with God. The extent to which I share Professor Schultz's sentiments is not material. I am, I believe, performing a certain public service (to coin a phrase) by bringing them before you.

* * *

The correspondence begins with a letter, dated September 15, from Smallwood to Schultz:

Dear Professor Schultz:

Perhaps you will remember me as the rather stout senior who visited you last year to question the fairness of his grade in your course on the Metaphysical Poets and who took advantage of this visit to ask your advice on his choice of vocation. You may recall that I was contemplating entering graduate studies in English but, at the same time, was seriously considering moving to New York or some similarly inspiring place, buying a typewriter, and attempting to "live by my pen." You may also remember that you discouraged me—rather harshly it seemed at the time—from either of these undertakings and suggested that I follow what you called, as I remember, "some more appropriate pursuit...like commercial fishing or steamfitting or television." At the time I thought it possible you were being facetious, but now I suspect this suggestion showed real knowledge of human nature and understanding of my talents and needs. I haven't, I hasten to say, chosen to fish or steam-fit, but I **am** in television and enjoying it immensely. Indeed, I just want you to know how right you were and to say that TV does indeed offer wonderful opportunities to young people of literary inclinations and industrious habits.

I am currently employed at Station WEGG, our local educational television channel, and although my post is not as yet commensurate with my talents (I am assistant property manager for discussion programs and film presentations), I am already deeply in love with the broadcasting art. For it **is** an art, a fine art— as I'm sure you must feel since, after all, you seem to direct promising students to pursue it.

One of the splendid things about broadcasting is the friends and associates who constantly stimulate the newcomer with their wisdom and charm. For instance, my immediate superior is Mr. Ed Gamboosi, a man of learning and experience who not only has an MA in Radio Sound Effects from Manitowoc Tech but has acquired, during his months as a guide at Radio City, the real "savvy" which makes him so authoritative a figure around here.

1 The candidate in question has since abandoned this project in favor of a dissertation on "Charles Van Doren: Master of Fiction" in the School of Speech. Hence the present publication (ed.).

It was Gamboosi, for instance, who remarked recently, "You know, when you come to look at it, television, with its power to reach into the lives of millions, is the biggest invention since the printing press." I immediately thought of you, and how this was the kind of statement—radical, perhaps, but food for thought—that made you such a popular teacher. With the stimulation provided by Ed Gamboosi and other intellectuals, I have been thinking more and more about television as an art. I know there has been and is much about the medium which is pretty vulgar and revolting. But it seems to me that if you think of the magic of the invention, with its power to reach into everyone's life, and then think of the bright, dedicated people who are using it —well, the future is wonderfully promising.

I guess what I'm trying to say, Professor Schultz, is that here's one of your students who is on the way to becoming an artist in a new medium which has unlimited promise. One of Ed Gamboosi's favorite words is "exciting" and that's just what my prospects are right now. And I just want you to know that I'm grateful to you for steering me so successfully.

Respectfully yours,
Homer Smallwood.

Schultz to Smallwood, September 21.

Dear Smallwood:

It was kind of you to write and I remember you well. Indeed, your name was mentioned just last week in a committee meeting, although in a context with which I shall not trouble you at this time.

While your letter is most interesting, I fear you are under some misapprehension concerning my role in bringing about your present euphoric condition. I urged television upon you not as an art, but as a vocation. I have spent a good many years studying literature and quite a number of hours looking at television (Maverick, Leonard Bernstein, and the wrestling matches are my particular favorites). Although I have long since concluded that a number of literary performances deserve to be classified as fine art, I am by no means convinced that I can make the same assertion about anything I have ever seen on my television set.

Your Mr. Gamboosi appears to be a man of parts, but I am reluctant to agree that the importance of television is as yet comparable to that of the printing press. I myself should be inclined to compare the invention of television to that of the flush toilet, since both devices are virtually ubiquitous, regarded as indispensable by whoever once owns one, and, once set in operation, almost totally predictable as to their manner of performance.

I am aware that it has become banal to lament what has been done so far with television and that it is fashionable to speak, as you have done, of the "promise" of the medium. I am all for promise —it is the staple item of academic economy—yet I am compelled to say that when an institution has been with us, inescapably, for fifteen years, as has television, or for thirty, as has radio, then "promise" must be assessed, in large degree, upon past performance.

Of this past performance I shall concede that it has included much informative journalism, considerable transient diversion, and occasional suspense and even "excitement" as events of significance have been disclosed to the public. If, however, by the literary arts

we mean constructed works—the deliberate, imaginative creations which are constructed of language and spectacle and of the human actions, thoughts, and passions which these can represent—then radio and television have produced a pitiable trickle of literary art... and even this trickle has, on the whole, been very bad.

Despite these views, I rejoice in your good fortune and am grateful for your kindness in writing. It is always a pleasure to hear from erstwhile students in varied walks of life. Indeed one of my most valued correspondents has been in Atlanta Penitentiary for the past fourteen years. My regards to you and my compliments to your friend Mr. Gamboosi.

Yours faithfully,
A. S. Schultz

Smallwood to Schultz, September 28.

Dear Professor Schultz:

I have been very much excited by your letter and, despite the fact that it says some very troublesome things, I wish to thank you for taking the time to write me.

I should have liked to see what Ed Gamboosi had to say about some of your comments, but since he has taken a position in the public relations department of the United Fruit Company, he is no longer around. However, his successor, Miss Patsy Pitts, is a delightful and cultured girl who studied elocution at Mansfield, Ohio, Junior College and comes to us from Little Golden Books, Incorporated, where, though employed in the wrapping department, she acquired invaluable practical experience. As a matter of fact, Miss Pitts and I have spent a good deal of time together, talking about basic questions as serious young people will, and I must be frank in saying that the objections I feel to the views expressed in your letter have been suggested mainly by her. She asks, for instance, what you have to say about the performances of famous Shakespearean plays that are brought to millions of network viewers who would otherwise be unacquainted with Shakespeare. She points out that some years ago you would have been able, early on Sunday mornings, to see televised interviews with great people like Osbert Sitwell, Pablo Casals, and Wanda Landowska. And I would add that there is an imposing list of star performers like Laurence Olivier or Tibaldi or Toscanini or Helen Hayes whom the magic of television has brought into every community in the nation.

Perhaps you are not giving television a chance to prove itself. I know you are very busy with your teaching and research, but as a brilliantly witty letter by Mr. Sarnoff in a recent issue of a national magazine points out, wonderful opportunities like this are being brought to the American people by the twin miracles of television and Private Enterprise, and it behooves we (sic) intellectuals to keep abreast of them. I really hope some thought about all this will alter your opinions.

I am making out fine. If you have UHF, perhaps you saw "Junior Bird Watchers" on Channel 54 last night; if you did, you will be interested to know that the hedge-sparrow's song was really me, whistling.

Yours respectfully,
Homer Smallwood

Schultz to Smallwood, October 2

Dear Smallwood:

I do not have UHF, whatever that may be, and I fear that neither it nor any other disabling disease

would reduce me to spending my evenings in the company of Junior Bird Watchers. I am nonetheless delighted that you continue to find your work rewarding.

Miss Pitts would appear to be a wholesome and dedicated young lady. Since you are good enough to quote her views to me, perhaps you will discuss with her some of the following questions:

In a city with five, fully operating TV channels, I am told that an annual total of about thirty-two thousand broadcasting hours are accessible to the television viewer. Let us join in admiring the kind of program which Mr. Sarnoff clearly regards as "worthwhile." (I haven't by the way, now read his letter. If he were not a Harvard man, and thus capable of such happy eloquence, I might almost attribute the document to an astute and witty assistant of his named Stanley, whom I once met at a tea for Sean O'Casey.) My question is simply **how many** of the aforementioned thousands of hours are occupied by programs of the kind Mr. Sarnoff asks us to admire?

Will you—or Miss Pitts—name for me one television performance of any traditionally accepted literary work—Shakespeare or Henry James or Congreve or Conan Doyle—which you honestly feel has been improved or enriched in the version presented for the television audience. Indeed, of how many such works can you say that the original has not demonstrably **suffered** by its adaptation for broadcasting?

Between you and Miss Pitts, how many lines can you quote, scenes can you accurately describe, plots can you faithfully outline,—nay, titles can you remember from individual dramatic, narrative, or poetic works expressly created for television or radio broadcast? How does this list compare with what you could compile from the plays, novels, and poems made available over the past thirty years by publication, the theater, or the movies?

It is more than likely that you and Miss Pitts are by now finding more rewarding activities than responding to my rather captious communications. Feel free, therefore, to answer the foregoing or not, but believe me to be, in any case,

Yours faithfully,
A. S. Schultz

Smallwood to Schultz, October 5.

Dear Professor Schultz:

Again, I found your letter very provocative, and I have been trying to find an honest answer to your questions. I know Miss Pitts would have been helpful, but since she has accepted a job as a policewoman in her native Mansfield, I no longer have the satisfaction of bringing my problems to her. I am often tempted to arrange a talk with Dr. Julius Duplex, the celebrated school administrator, who is now the director of our television station, but he is a busy man—and, besides, I know you like your students to think for themselves.

Well, I guess my answers to your questions are the ones you were fishing for when you asked them. There is certainly not a huge amount of airtime devoted, even by Mr. Sarnoff, to intellectually valuable programing. And I admit that such devices as omitting both gravediggers, Polonius, Horatio, and Gertrude do little to improve upon Shakespeare's original play. I can remember a good many details of a TV play by Paddy Chayevsky and I think I could reconstruct some of the more exciting moments from Arch Oboler's "Lights Out," even after all these

years. But I'm afraid this is about all I can do—although, in answer to your further query, I have memorized the whole of "The Love Song of J. Alfred Prufrock." I wonder, though, Professor Schultz, whether this thought has ever occurred to you: most professors tend to be somewhat "unrealistic." Insulated against the hard facts of economic life, they are inclined to be a bit Utopian. I heard Dr. Duplex put it with his characteristic originality when he said, "Those boys never had to meet a payroll." If you could properly understand the pressures all broadcasters have to conform to the common level of taste, if you could recognize how hard it is to please sponsors or, for that matter, trustees, if you could grasp that the **Iliad** simply **has** to be cut in order to be presented within a thirty-minute format, and, above all, if you knew what the Trendex ratings show us about the popularity of cultural programs— then, perhaps, you would not be so harsh in your judgments. In other words, as my mother used to say, you have to be practical.

I have been transferred to an interesting job in the mailing department. While sending out our monthly program guides, the three of us engaged in this work have a good deal of opportunity to talk about the art of broadcasting and, I can assure you, we cook up some pretty exciting ideas. I wish I could tell you some of them.

Yours respectfully,
Homer Smallwood

Schultz to Smallwood, October 15.

Dear Smallwood:

Pardon the brevity of this note, written under heavy academic pressures, since the faculty tennis tournament occurs this afternoon. I do not see that the facts of economic life—or the degree of my familiarity with them—bear on the question of broadcasting as a literary art. Within the past two centuries, virtually all poets have been wretchedly underpaid and have written for miniscule audiences; the same may be said for the vast majority of novelists and all save a handful of playwrights. They have continued, however, to practice the literary arts. I do not find anything remotely analogous among professional broadcasters.

Yours faithfully,
A. S. Schultz

Smallwood to Schultz, October 17.

Dear Professor Schultz:

I certainly appreciate your writing when you are so busy. I have finally worked up courage to talk to Dr. Duplex and—I hope you don't mind—showed him some of your letters. He has a very keen sense of humor (his after-dinner stories are famous) and is always chuckling in a kindly fashion, so I know you will not take offense when I tell you that he read your letters and laughed heartily, saying, "Isn't that just like a professor?" This, by the way, shows how very broadminded he is, since he himself was a professor of Human Dynamics at, I believe, North Dakota Dental. Then he went on to talk, and I believe I can just about quote him word for word.

"Art?" he said, "Why, bless the man, doesn't he know there can be art in anything? Why, as I've pointed out a hundred times, there's an art in the way a well-trained announcer handles a station break or a floor man throws a cue" (these are technical terms, Professor Schultz). "Haven't you stopped to think that there's as much art in the way a wife cooks

a meal or a mechanic repairs a car as there is in some precious volume of poems?

"The trouble with your pedantic friend, my boy," he went on, "is that old notion that art is the exclusive property of an elite...to which he fortunately belongs! The minute this kind of mossback finds something that's accessible or enjoyable for the millions, it loses its 'charm' and its 'importance.' Dammit, boy" (I'm positive he said 'dammit,' he's a regular fellow) "I'm an educational broadcaster, but I tell you there's nothing nobler in the world than to bring solid, wholesome laughter into the lives of the lonely, to produce an honest tear in the eye of the complacent, to bring a few moments of escape into the lives of ordinary mortals who, though they may struggle solitary through this vale of sorrow, may be joined in brotherhood by the miraculous ties of broadcasting."

As you can see, Dr. Duplex has great literary gifts himself. Professor Schultz, is he right? Can there be so many different kinds of art? And can the literary arts include the kinds of things he's talking about? And, Professor Schultz, what is literary art anyhow?

Perplexedly but respectfully,
Homer Smallwood

Schultz to Smallwood, October 19.

Dear Smallwood:

I am feeling rather tired. The faculty tennis tournament—from which I was eliminated by the outrageous tactics of Dr. Zygote from Botany—together with my labors in editing the Earl of Rochester's poems have left me somewhat exhausted, and I fear your most recent letter has done little to revive me.

Yes, Smallwood, there are many kinds of art. Dr. Duplex is right; you might point out to him that his discovery has been anticipated by a number of distinguished philosophers. There are useful arts like cooking or radio announcing, and there are fine arts like the making of music or paintings. There are also, among the latter, the poetic arts which I give this name in order to distinguish them from the peculiar literary arts practiced by those who convince people that they can rule the world by changing their oil or underwear.

The literary art with which we were concerned in the classes of mine you attended—and which generally occupies humanists—is that in which you are presumably interested when you talk of "culture," and, more specifically, of poems or plays or novels. It is an art which employs language in the construction of works designed to stand in permanent form, with the power to bring uniquely human—that is, intellectual and emotional—pleasure to those who read or hear or see them.

If a man from the nineteenth century were to learn about the development of our electronic devices for broadcasting, he might well, I think, assume that these astonishing inventions would be primarily devoted to literary art of the kind I have described. He might properly expect that the actions and thoughts and characters of men, eloquently represented by moving and noble language, would be the principal objects with which these media concerned themselves. If he were to learn what has actually occurred, he might, to put it mildly, be astonished. If he were as broadminded as Dr. Duplex, he might indeed rejoice in the display of other arts: the art of rhetoric, the art of journalism, the art of exposing the human body, clothed

or unclothed, for inspection, the art of bowling, or the art of appearing to answer questions of great difficulty in order to receive staggeringly large sums of money. But if he were to inquire, with all modesty, into the place within these media of that other art, the art that has been with man since the dawn of civilization, the art of telling stories movingly and wisely and with beauty of language and importance of theme...then I think he would be shocked with what he could discover. If he were, for example, to ask us to reveal the best-known way in which imagination and ingenuity are being practiced today in the construction of stories for broadcast—a way, let us say, which merits a cover-story from **Time**— he should, I'm afraid, be forced to select the affairs of the "Private Eyes." And he, upon inspecting them, could assuredly be forgiven for judging these worthies to be as pallid, tedious, and stereotyped a crew as could be found—as inferior even to the great literary detectives of the past as are the episodes in "The Edge of Night" to the **Canterbury Tales.**

I suspect, Smallwood, that I myself am disappointed in the uses of broadcasting because, although I am not from the 19th century, I am one of those who find the 19th or 18th or 17th century to be interesting, lively, and full of reasons for anticipating in the 20th century greater interest and liveliness than in any of its predecessors.

I have no particular objection to your showing my letters to Dr. Duplex. I wonder, though, if you will have the goodness to remind him of one sentence which I rudely snatch from the context given it by John Crowe Ransom. I should be happy if he were to think about it occasionally in the conduct of his TV station or his performance as an educator who appreciates so many kinds of art. It is this: "Our arts, certainly our poems, should fill us with pride, because they furnish our perfect experiences." How much perfection you or Dr. Duplex are furnishing—and how much pride you take in what you are furnishing—are questions which I must leave to you.

Yours faithfully,
A. S. Schultz

Smallwood to Schultz, October 21.

Dear Professor Schultz:

You perhaps didn't realize the extent to which your words can influence me. As it happens, your letter arrived in the wake of an offer I received of a position as copywriter for the Serve and Save Discount Mail Order House. The likelihood of my advancement in television is uncertain. As far as my present chores are concerned, well, I think you have removed the blinkers from my eyes. What once seemed humble but hopeful service in the accomplishment of a great mission is now menial and unrewarding drudgery as part of an enterprise that is soulless and insensitive from top to bottom. I might add that my suspicions have been borne out by the conduct of Dr. Duplex, who recently displayed the most uncivilized degree of anger when I inadvertently tripped over a cable and plunged our important U. S. Steel-sponsored noncommercial program on the wonders of steel-making into total darkness. Nor was he mollified when I brought your latest letter to him as a sort of peace-offering. So I am going to work for Serve and Save, confident that there will be as much chance for literary artistry in eulogizing garden hose (they are assigning me to the House and Garden Department) as

there could ever have been in a television career. I shall tell you, in all respect, that there are students who have called you a cynic and a pessimist. They do not know, as I do, that yours is—if I may try out a figure of speech that has occurred to me—the performance of the surgeon, who cuts and pierces only that he may heal. I am deeply grateful for your advice and shall keep you in touch with my progress at Serve and Save.

Yours respectfully,
Homer Smallwood

Schultz to Smallwood, October 22 (AIR MAIL: SPECIAL DELIVERY)

Dear Homer:

I am a stupid old man—stupid in the first place because I say stupid, or at least dogmatic and fragmentary things; doubly stupid because, in my old age, I keep forgetting that younger people attach inordinate weight to the most unconsidered remarks of old men who happen to be professors.

When I received your last letter I immediately composed a telegram which read, "Forget ignorant and biased observations; stick to job you like." Then, however, I realized that this telegram would accomplish little—I had already written too much—and that, moreover, it was almost as superficial and incomplete as my earlier letters had been.

I began—I must say for the first time—really to think about your problem, about television and radio, and about the bearing which the literature which has been my life study might have upon these media. And I thought, as many old pedants are likely to think, of the **Poetics** of Aristotle, which you read in my course on criticism and which is, I think, one of the two or three most useful books ever written about literature as a fine art. I did not, however, think about those central, crucial distinctions and propositions which we stressed in class but about some peripheral things which emerge in this document, written in an age which produced much of the greatest dramatic poetry of western civilization. I recalled how Aristotle cheerfully declares that poetry began with the simple, common instinct of man to imitate what he observed and to rejoice in seeing imitations produced by others; how tragedy and comedy gradually came into being shaped by the ordinary inclinations of human nature to revile or admire, to praise and blame, to amuse one another with sob-stories or humorous anecdotes; how, even in Aristotle's day, the writing of Sophocles was plainly governed by the limits of man's attentiveness, the simple desire to see virtue rewarded and vice punished, the predilection for credible falsehood as superior to painful, naked truth. I thought too of Aristotle's recognition that the temptation to be "practical" and write plays which preached easy lessons or satisfied mean expectations had always to be resisted by those seeking to write authentic tragedy.

And it seemed to me that the superb art of tragedy which Aristotle knew and wrote about must have had a very precarious development. For if its origins lay in very basic common instincts, why should playwrights not have contented themselves indefinitely by appealing in a direct, uncomplicated, sure-fire way to such instincts? Or if, as now seems likely, some change in the practice of the playwright was inevitable, would not the most important influence in such change be the writer's desire to be "practical," that is, to achieve success by the cheapest

and easiest methods? The theater of fourth-century Athens was doubtless an imposing institution, but so is television. Why didn't the Athenian theater content itself with the slick production of stylized fertility rites or some kind of readily digested Hellenic soap-opera? I offer, for what they're worth, two answers that have occurred to me. The first is that there were at that time men whose literary talents were matched by enough devotion and courage to employ—in the face of apathy and even aversion—the uniquely human gift of language in the service of the other uniquely human gifts of imagination, sympathy, and reason. The second answer, I think, is that as the Greek drama developed, there was always an element—dominant in some men, latent in most—which made possible the uniquely human pleasure of imagining, understanding, and responding with reflection and compassion in the presence of authentic works of literary art. In fact, there must have been at that time a number of men who believed that the pleasures of tragedy were greater than those of spectatorship at hangings, seductions, armed combats, venal displays of spurious intellectual virtuosity, and conventionalized appeals to infantile fantasy and hero-worship.

Now I am firmly convinced that such people can be found in surprising numbers in our own society, that they would constitute a sympathetic, constant and surprisingly large—although not enormous—audience for broadcasters who practiced the literary arts. And thus, I was thrown back on my first answer, which led me to wonder whether, indeed, there were among broadcasters men with the moral and intellectual virtues I was attributing to the Greek dramatists. And I found myself, of all things, compiling evidence that these qualities had indeed been employed during the history of radio and television. I started jotting down the names of programs and series which, I felt, reflected not only imagination and taste but courage and devotion, and an extraordinary mixed bag they made! **Information Please** and **Ding Dong School; Lum and Abner** and **Hawkins Falls; The Ways of Mankind** and **Allen's Alley; See It Now** and **Marty; Maurice Chavalier's Paris** and **Invitation to Learning; The New York Philharmonic** and the **Chamber Music Society of Lower Basin Street; Colonel Stoopnagel** and (though it pains me to praise a rival institution) the **University of Chicago Round Table;** the Saturday afternoon Metropolitan Opera broadcasts and the **Friendly Giant;** Gilbert Seldes and Gilbert Highet and Captain Kangaroo; **Meet the Press** and **Outlook** and the **Library of Congress** concerts and **Kukla, Fran and Ollie** and the **Eternal Light** and the seven o'clock news by Martin Agronsky. These programs were, none of them, the work of people who were timid or venal or inept or insensitive. Nor were they the work of myopic individualists, but of men and women who could live creatively and honorably with the commercial and the station-break and the thirty-minute segment, just as Aristotle's dramatist contemporaries presumably lived with contest-judges, hour-glasses, and interruptions while libations were poured to the local deities.

It is true that my list does not disclose the presence of many **literary** artists among the broadcasters; at the very least, literary identity has thus far become suppressed by the mass media. But my reflections have led me to believe that what will prevent the assertion and survival of this identity is, in the last analysis, neither

the medium nor its audience but the absence of imagination and of moral conviction on the part of broadcasters themselves.

What seems obvious about the past is that broadcasters have not **chosen** to practice the literary arts, and the question you may logically ask is "Why should they?" In answer, the best I can send you is a quotation from W. H. Auden, again rudely snatched from context. "Of the many definitions of poetry, the simplest is still the best: **memorable speech.** That is to say, it must move our emotions or excite our intellect, for only that which is moving or exciting is memorable." (Yes, the word "exciting" has its uses.) I do not think that broadcasting has yet produced very much that has moved deeply or been remembered long. I think that when broadcasters, educational or otherwise, do seek to move deeply and memorably, they will inevitably be brought to practice the literary arts. Their medium invites this, although their milieu may discourage it. Their choice of the literary arts will not be the easy one, for it will not lead to wealth or fat Neilsen ratings or even to favorable mention by the majority of newspaper critics. As your Dr. Duplex points out, moreover, there are other arts which can be painlessly practiced on television, and they have their own rewards, even including, in some instances, the guarantee of intellectual respectability. Yet I cannot help believing that among broadcasters—and particularly among young broadcasters—there are some with the talent and courage to attempt that art whose products will be felt most deeply and remembered longest.

Perhaps what I have been writing has no real relevance to your own problems. But if you were to seek out people who were truly determined to **use** broadcasting in the **service** of fine arts, I should not be embarrassed by this long letter, by my own skepticism about the past achievements of broadcasters, or by my belatedly expressed faith in what broadcasters can do in the future.

You may, by the way, be interested in the fact that I have been invited to give my lectures on the Metaphysical Poets over the local educational TV station. I am told that the Educational Television and Radio Center has expressed a cautious interest in kinescoping the programs for national distribution.

Faithfully and apologetically yours,

A. S. Schultz

You have just read an address delivered at the

1959 convention—Send in your registration for the

1961 NAEB convention now!

Nebraska's ETV Story

Commercial station cooperates to educate more students

A little over a year ago, a small group of educators in Nebraska agreed that there are many unique results which can be accomplished by the television camera in regard to educating the children of the state of Nebraska.

With that decision made, the educators formed the Nebraska Council for Educational Television with the main goal of establishing a state-wide network of educational television.

Last year, the council operated on a relatively small scale by telecasting to twelve school systems in southeast Nebraska, with the purpose of improving the level of science instruction in grades 4, 5, and 6. The programs originated from the studios of KUON-TV, the University of Nebraska's educational television station.

With an eye to the coming year, the council took the first step in the expansion of Nebraska educational television with the aid of Omaha's commercial television station KETV, which is telecasting seven and a half hours of classroom instruction each week to its area. KETV is the Omaha area's most powerful television station, operating on 316,000 watts video signal strength from the tallest structure in the region—the KETV tower, 626 feet above average terrain.

By **Charles B. Klasek**

Coordinator, Nebraska Council for Educational Television, Inc. Currently also a Ph. D. candidate at the University of Nebraska.

The programs originate in the studios of KUON-TV and then are simulcast over the two stations. With the addition of KETV's facilities eight school systems, with 300 classrooms and 10,000 students have been able to join the network.

A total of fourteen programs a week are broadcast simultaneously by KETV and KUON-TV. They include French and arithmetic for grades 3 and 4, science for grades 5 and 6, and social studies for grades 7 and 8. A sophomore college course in introductory education is included twice weekly. The programs run each day from 8:00 to 9:30 a. m., with an arithmetic science in-service

program beginning at 7:45 a. m. each Wednesday.

In agreeing to the expanded plan, Eugene S. Thomas, KETV vice-president and general manager, said:

"We know of no better way to contribute to our nation's progress and prestige. That is why, when the university and the Nebraska Council for Educational Television asked to use a small part of our tower to send visual and oral instructions into classrooms of four nearby communities, we responded by turning our entire facilities and our staff over to this work.

"This will mean that the instruction can be telecast into many more classrooms and over a far wider area than was originally contemplated."

He pointed out that the ambitious scope of this schedule for telecasting fourteen programs a week into Nebraska classrooms can be appreciated more when it is noted that this is fifty per cent more weekly programs than is now being telecast into classrooms by the British Broadcasting Corporation Television Network, even though the BBC has been operated by its government for nineteen years and is the world's oldest regular television service.

In order for KETV to accomplish its educational service, the commercial station withdrew from sale irrevocably the 8:00 to 9:30 a. m. time periods Mondays through Fridays inclusive, every week of the 1961-62 school year, starting in September.

In presenting these programs, the television camera permits more freedom in the teaching of the classes. For instance in the science course, the program reinforces and enriches the instruction already in existence in the classrooms. It is based on the problem-solving approach and development of concepts in the areas of air, weather, aviation, space, the geological calendar, the earth, the nature of matter, energy, living things, and conservation of human resources.

In arithmetic, the telecasts focus on the understanding of broad arithmetical concepts. They avoid drill and repetition, but instead go beyond and accent the visual presentation of number systems. In social studies, world backgrounds are emphasized in grade 7 and American backgrounds in grade 8. The telecasts use the resources not only of the university and Lincoln but also of the state as a whole. Featured are such world events as interviews with outstanding people in government, world travelers, and foreign students, in an effort to develop in the students an appreciation of the society in which we live.

In elementary French, the aural-oral approach is emphasized. The basic ability of children to mimic and to imitate is used in the development of conversational abilities in this language. In essence, this course is direct in teaching, but the teacher in the classroom is still expected to follow up the telecasts. The unusual phase of this course is that it is designed to be used with the teacher in the classroom regardless of the amount of French background and training she has had.

Except for the French course, which is on film, the telecast courses are produced live in the KUON-TV studios with experienced teachers.

Marlin Languis, who received both his bachelor's and master's degrees from the University of Nebraska, instructs the science course. His background includes

a position as elementary principal at Grand Island, Nebraska.

Dorcas Cavett, an arithmetic teacher in the Lincoln Public Schools since 1948, instructs the arithmetic course. She has had teaching experience at Snyder and Mitchell, Nebraska, and Des Moines, Iowa. She also holds a master's degree.

Paul Rosewell, the social studies teacher, has had teaching experience at Hebron, Pawnee City, and Lincoln. He also was social studies supervisor at University High School while completing work on a master's degree. He is currently teaching at McCook Junior College.

The first year's success of the Nebraska council indicated to Nebraska educators that the council has established itself firmly in the state and the prediction that its membership would expand came true. With an original six schools as charter members, the membership has increased to thirty-two schools.

With this firm backing and the encouragement of fifty Nebraska school superintendents, the council is now seeking another major step in the expansion of the state-wide television system. That is the petitioning of the Federal Communications Commission for the

Professor Joe Zafforoni teaches elementary science via TV. While he is in the KUON-TV studios, the course is simultaneously broadcast over the facilities of commercial KETV, Omaha.

assignment of six VHF television channels stretching across the state for noncommercial educational use.

The use of these channels, together with the university's KUON-TV would provide a total population coverage of 1,191,000 persons, ninety per cent of the state's population. Only 134,510 persons would be beyond the range of the proposed Nebraska Educational Television Network.

There is no doubt that the need for educational television in the state is an important one. Nebraska is large geographically—over 450 miles in length and 200 miles in width. The majority of the population resides in the eastern sections of the state. These physical facts alone present critical problems in the development of a cohesive and extensive educational plan. Since the University of Nebraska is located in the southeastern corner of the state at Lincoln, many of the state's citizens are deprived of educational advantages which, as taxpayers contributing to the support of the institution, are their due. Through a state-wide educational network, the best that is available to any part of the state can be made available to all parts of the state.

Despite the rapid population movement from Nebraska farms in recent years, more than one-half of the state's population of nearly 1.4 million people continue to live in rural or small-town communities. Although there have been continued efforts at school district consolidation, Nebraska is still notorious, educationally, for having more districts than any other state. As a result, Nebraska has a disproportionately large number of small—and often isolated—schools whose educational opportunities would be greatly enhanced by educational television. This is particularly significant in view of the fact that many small schools in Nebraska, because of geographic conditions, can never be properly reorganized into effective school districts. Only by means of a state-wide educational television network can these schools obtain advantages of the enriched instruction program which is the practical potential of this significant new medium.

It is also recognized by many educators in the state that during the next decade Nebraska faces a difficult problem of transition. The state has failed to maintain a population level which is in keeping with the birth-rate increase. Thus, Nebraska is faced with the task of finding new opportunities for its people and of encouraging them to equip themselves to take advantage of such opportunities when they arise. This is a problem to which educational television—were it available—could significantly contribute in the way of a solution.

Turning to the accomplishments of a state-wide television network, undoubtedly one of the most important considerations is the necessity of teacher training. Since Nebraska, perhaps more than any other state, is rapidly changing from an agrarian to an urban form of society, school systems must also change their purposes. If the schools are to change, teachers must also of necessity change their orientation and outlook. The possibility of linking together teacher-education instruction and representative school systems throughout the state for informational, observational, and demonstrational purposes is an exciting potential. Institutions as well as individual instructors need to be aware of the differing demands of the

range country, the sand hills, the farming area of eastern Nebraska, and the rapidly developing industrialized centers.

It is also significant to note that at the present time about 6,000 of Nebraska's 8,500 elementary teachers do not have college degrees. The upgrading of instruction through teacher education is therefore even more important to Nebraska than to many other states.

It might be pointed out that one of the most effective teaching methods—as revealed by experience through its use by the agricultural extension service of Nebraska—is the "television demonstration." Educational television offers superb opportunity to "show and tell" how to carry out certain practices.

As I indicated previously, there are many things which can be accomplished by the television camera which cannot otherwise be effectively presented. This may be illustrated by the procedure of taking close-ups of experiments, demonstrations, and similar empirical "learning" experiments which may be viewed by large groups of students. Educational television makes it possible to bring many resource people into the classroom; outstanding educators, for example, who could not possibly make separate presentations in individual classrooms because of the press of time, may be interviewed by the television medium. At KUON-TV, for example, members of a jet crew, including the pilot, were interviewed and demonstrated their equipment to a small group of children at a studio. By means of the television camera, this interview was made possible before the eyes of 9,000 children. Without television only a small fraction of these children would have had this viewing opportunity.

Experience with ten schools working with science telecasts for elementary pupils in grades 4, 5, and 6 has also demonstrated that television can substantially improve instruction. For example, it has been the experience of those persons concerned with the improvement of science teaching in the elementary schools that television—in a few months—has done more to strengthen science teaching than all of the work done in numerous preceding years. It is apparent that the same type of educational impact could, and must be, carried out on a statewide basis.

As many as 243 students can take part in the televised geometry class at Lincoln High School.

TV's Efficiency in Communicating

Is has become commonplace for people to believe that television has tremendous potential for the

By **William A. Belson**

Survey Research Unit, London School of Economics.

mass communication of information and of ideas. At the same time, research in Britain has made it increasingly clear that this pervasive medium can also fail to do what it is intended to do.[1] This applies both to educational and informational programs and to advertising output.

In some cases the failure arises out of one or another form of rejection or evasion on the part of the viewer, and usually this is associated with his attitudes or values in relation to the program material. I have found it quite markedly in evidence in studies of programs about civic issues, political affairs, public morality and mental health, and generally in relation to program material which touches the viewer personally. Quite apart from simply switching off unpalatable material or not tuning in at all, the viewer's reaction processes can and do operate on such material in various ways, often enough automatically and almost unconsciously. The simplest of these operations involves selecting from a program that material which fits the viewer's own position. This can even take the form of stockpiling certain arguments for later use and learning how to reject others which previously the viewer had tolerated. Moreover, what appear to be hard facts can be twisted and re-interpreted and one does not have to look far in the literature of social psychology to see this phenomenon as a fairly pervasive and forceful process.[2, 3, 4] Even attempts to provide helpful information can go astray, as when a teaching program to help the would-be traveler to France reduced the public's desire to go there—primarily because the realism of the program pointed to problems that people had not much thought about.[5]

But the broadcaster faces yet another—and more serious—source of failure. All too often the viewer simply does not understand what is being said or shown to him. This applies particularly to programs on technical matters and those on current affairs. What tends to happen is that the broadcaster fails to take account of the viewer's lack of basic technical knowledge and his lack of familiarity with many words. The viewer's failure on this particular count is not just a matter of intelligence. None of us can make sense of that sort of statement which is made in terms of strange or unfamiliar symbols. We **may** struggle for a little while, but the program is non-stop and all too soon we are left behind.[6] Viewers in this position may, of course, sincerely acclaim the program as "interesting," but this is no guarantee at all that it has been understood. On the contrary, it has been my frequent experience on testing people straight

after exposure to "interesting" programs to find considerable vagueness over key points, many gaps, and misunderstandings of various kinds. So often broadcasters and viewers have quite different educational and experimental backgrounds. Even when the broadcaster is willing to abandon his own specialized language, and to try to fill the gaps in the viewer's knowledge, he still has to know **how** to do this. All things considered, it is not easy to establish these necessary conditions for mass communication, particularly in Britain, where the gap between broadcaster and viewer is often wide and where a tradition of **trying** to bridge the gap has by no means been established.

Certain of these conditions are accentuated in relation to television advertising. In Britain, people very frequently break into other activities when the advertisements come on. Moreover, in a great many homes they are a source of no small irritation, particularly when they are old ones served up yet again, where they are bullying, when they are seemingly false, or where their content lacks freshness or something of interest in its own right. These are not conditions which favor the intake of the advertising message.

In making these points, I do not mean to suggest a massive failure in our use of television for communication purposes. I **am** saying, however, that there are real barriers to the efficient use of this medium for mass communication and that we frequently work well below the level of efficiency that might have been achieved. Were we dealing with something that cost little in time and money and effort, inefficiency might not so much matter. But television is expensive in all these ways and this puts a high premium upon greater efficiency.

It is against this particular background that I wish to describe two research techniques which between them provide a means of increasing the efficiency of television programs in communicating ideas and information.

TECHNIQUES FOR INCREASING THE EFFICIENCY OF COMMUNICATION THROUGH TELEVISION

The aims and the tools of television research are quite numerous, and all of them may be said to be directed toward greater efficiency in one or another way. The various techniques for measuring size of audience are of obvious importance for they tell us the degree to which people are giving the broadcast material the slightest chance of being absorbed i. e., whether or not the set has even been turned on). Measurements of audience appreciation of what they see on television are clearly basic. After all, the majority got their sets to be amused, or to be interested, or to be otherwise entertained, and if programs intended to produce these feelings do not in fact do so, that is an efficiency failure of a very serious kind.

These methods, and the case for using them, have been fairly fully documented already and it is not my intention to comment on them here. Instead, I shall deal with several techniques with which I worked for some time in the British Broadcasting Corporation. They are concerned directly with the efficiency of the television medium for communicating information and ideas to the viewer. As methods, they have special reference to programs which are educational, informational, or purely commercial in the intention behind them.

These two techniques or operations are what I have called (1)

"charting" studies, and (2) measurement of effects. The first technique is directed to the development of particular programs in phase with the abilities and characteristics of the people for whom they are intended. The second involves the measurement of the degree to which the communication intended actually takes place.

CHARTING STUDIES

Charting studies may be aimed at preparing for specific programs. In this case they will probably be concerned with finding out as much as possible beforehand about the public's knowledge and attitudes in relation to the topic of a projected program. This is done ahead of any program preparation and its whole purpose is to help production staff to tailor the program to its intended audience, its "target" audience as it is called in Britain. Such a study can indicate what is already known of the subject by the target audience and what is not known about it. It can point to their state of mind on this topic, to the dangers of misunderstanding and to the barriers to the message getting across. It may even indicate that there is no cause for putting the program on at all.[5]

This charting process can be illustrated by the planning study carried out for the series called **The Hurt Mind**, a series of four programs dealing with mental illness.[7] As originally conceived, it was meant to sharpen the public's concern about mental illness as a social problem, to develop sympathy for the mentally ill, to provide information about the forms that mental illness takes, about its causes and about modern methods of treating it.

Now the preliminary study showed that there was **already** a considerable awareness of the social and human problems of mental illness. This might seem surprising, but the reason for it is simply that a great many people do in fact have contact with the mentally ill. Viewers were already markedly sympathetic and there was a lot of feeling that "There, but for the grace of God, go I." Accordingly, the program effort was directed away from this side of things. This was for the obvious reason that there was no case for concentration on this point, but also because the preliminary work had strongly indicated that the viewer was likely to become irritated at any suggestion that he did not know about mental illness as a social problem or didn't care about it.

We also found in our preliminary work that viewers had quite a lot of knowledge about the forms which mental illness took and about certain of its causes. Let me add here, by way of explanation, that people can be decidedly ignorant about things that are **only in books** or that they don't come up against **personally.** But this was something that they **had** come into contact with—and frequently. That is why they knew about it. At the same time, their knowledge was unsophisticated in that they had little or no grasp of technical terms. There were also major gaps in their knowledge when it came to the physical causes of mental illness—the largely organic ones as distinct from the social causes. The obvious thing to do was to build on the public's existing knowledge and to fill in specific gaps. Accordingly, technical terms were linked to what was already known and where nothing was known the broadcaster started at the beginning. The public's sympathy for the

mentally ill was taken for granted, and the attempt to strengthen it was made through indirect means.

That program was also concerned with increasing the public's willingness to accept the mentally ill back into society after their discharge from hospital. In the same way it was intended to prevent people from rejecting those who were being treated as outpatients. But an examination of ideas on this matter marked it out as dangerous territory. The viewer knew all too well what the problems were and had certain definite reservations. Any amateurish attempt by an intellectual or a specialist to persuade him to drop these reservations was likely to come in for rejection, with a possibility of unfortunate side-effects. In fact, what they were **not** willing to do was to have ex-patients (or persons being treated) in positions of authority or responsibility when c h i l d r e n might be involved. Many were unwilling to have them as close neighbors. And **marrying** with them was regarded as **out.** Clearly it was advisable in these circumstances to build on what was **acceptable** to at least a large proportion of viewers, with the idea that some of this would carry over into wider acceptance of the mentally ill. (After its broadcast as a series of four programs, under the general title **The Hurt Mind,** came checks on its effects. Broadly speaking, the program did what it was intended to do.)

The BBC has carried out various other charting studies of a similar kind: knowledge and attitude concerning r a c e relations in Africa;[9] the public's knowledge of certain technical words to be used in an informational program;[10] English attitudes toward Americans and their knowledge of the American way of life;[11] knowledge and ideas concerning the concepts of evolution and of Christianity.[12] Such studies must be conducted in close liaison with production staff and the liaison with the latter must be continued during the development of the program itself. Granted such liaison—and it may not be easy to secure—the charting study can have a lot to offer, particularly for programs in a lengthy series. Its advantages for the **advertiser** are particularly marked, because the one charting study may well serve him for quite a lot of commercials.

I shall be coming shortly to the techniques for gathering such information, but first I wish to refer in broad terms to another kind of charting study.

CHARTING STUDIES FOR THE DEVELOPMENT OF STATION POLICY

If they are to be realistic and efficient in their decisions about general programing policy, those who make the decisions must have available to them a large body of information about the people to whom they are broadcasting. Such information is all too frequently lacking. The least they must have is information about the **interests** of the population. Just what is the distribution, by percentages, of the many and varied interests of the population? The existing interests of people may be regarded as either the subject matter of programs or as elements within programs designed to hold attention at specific points in it. But we must know how big a section of the population it is that we are thus serving or holding. Attempts at mass communication through minority interests, and vice versa, do frequently happen and are potentially wasteful.

It is, of course, highly desirable that such information should be

gathered in conjunction with further information. The least that is necessary is information about the educational and the occupational background of the people concerned. This extends the planner's knowledge about the number of people with a particular interest, to the **sort of people** they are. It can give to program staff a realistic lead in terms of the necessary treatment of the topic to be dealt with in the program.

From a long-term point of view, one needs to build up even more information about the public which is being served: family composition with special reference to the number and the ages of young people and children; details about the availability of viewers (in different sections of society) for viewing activity, including information about the bed-times of children.

Another useful aid is information about the public's **word** knowledge and its **general** knowledge—**not** for guidance in specific programs, but for the general education, as it were, of program staff drawn from academic and other narrow sections of society.

The British Broadcasting Corporation gathered information of this sort. While it is out of the question to expect it to apply to other societies in any precise way, there was no particular difficulty about developing such information and presumably the same technique could be applied elsewhere. The method used involved: group testing of ordinary members of the public with subsequent re-weighting to the general population in terms of relevant variables (to reduce the biases associated with any group-testing operation).

Information of the kind I have described, designed to help in the development of program policy, is best stored on punched cards. A number of basic tabulations would, of course, be prepared but one could never anticipate the variety of cross-tabulations which a wide-awake programer is likely to demand. With the punched cards readily available, these tabulations could be run off as requested.

RESEARCH TECHNIQUES TO BE USED IN CHARTING STUDIES

Much of the information necessary for planning station policy can be gathered through the survey interview technique. At the same time it may well be necessary to **couple** this to a form of self-completion questionnaire so that the respondent can work with other members of the household in getting largely factual information about them and about the family as a whole. Usually what happens in this procedure is that the interviewer starts the questionnaire with the respondent, dealing with those parts of it which can be or have to be dealt with individually, but leaving certain sections of it with the respondent for completion in the interviewer's absence. This material is collected at a specific time by appointment. In Britain the technique works well.[13]

The survey method tends to be not suitable, however, for assessing the knowledge and the attitudes of the public, whether it be for station policy or for the development of specific programs. This and certain other types of information should be collected under rigorous control and for this I have made frequent use of the **group testing technique.** This principally involves: (1) the invitation of members of the public to meetings, using a standardized letter of invitation and not revealing what the relevant part of

the meeting is about; (2) the testing of these people in groups of about forty at a time (up to an aggregate of possibly three hundred under conditions of no discussion, tight control and accentuated effort; (3) the re-weighting of the results in terms of age, sex and occupation, etc., to resemble that section of the public they were, in fact, meant to represent. This re-weighting does not involve any discarding of cases.

I should like to say more about the details of this technique, though those who prefer to read at the more general level may find my three principal points to be sufficient.

• The people invited to attend these meetings should, if possible, have been contacted through a prior survey, for this pre-disposes them to come when invited. This may have been one conducted in the course of other business or it may be a brief survey, specially conducted for this inquiry. Either way, this preliminary contact should provide name and address along with age, sex, and occupational background—information which is desirable for the control of the invitations to be issued. In its absence, names and addresses from electoral registers may be used.

• **The representativeness of people participating in such works.** Where previous contact with the invitee has been made, about 25% may be expected to attend. Most of these people "bring a friend." One cannot assume, however, that the people who elect to come, are necessarily typical of those asked. Various studies have been completed which deal with the representativeness of groups assembled for the purposes referred to here. The general indication of these studies is that the main source of unrepresentativeness amongst such groups is in terms of age, sex, and occupational background: women come more than men; those aged sixty and over come much less than others; the lower the invitee's occupational level (in terms of the skill and training required in his job), the less likely he is to attend.[14] If steps are taken to ensure that the sample is made representative of the public in terms of these three variables, then a workable control of biased turn-up (as it operates in this particular situation) will have been achieved for the majority of studies done in this way. There are, of course, other sources of bias that operate independently of these three variables and it is desirable, if it is at all possible, to exercise control over these too. The trouble, however, is that such bias can take quite a number of different forms and the one that matters in **one** inquiry (because it is numerically associated with the issue under study) may not matter in another. Techniques are, in fact, available for extending the control of volunteer bias to include such variables in a rigorous and systematic fashion, but these are geared to the use of the group-testing method on a regular rather than on an occasional basis. These techniques entail the matching of the test-room population (the volunteers) to the general population in terms of a composite of variables established empirically as the correlates of whatever is being studied. This process in turn calls for the establishment of population norms in terms of the variables included in the matching composite. Some details of this process can be found in other articles,[14, 16] and in its complete form it is simple and efficient.

For general (and approximate) purposes, however, it is usually

sufficient to make the test-room sample representative in terms of age, sex, and occupational background. This is best done in two stages. Since the rate of turn-up of people in different age-sex-occupational subgroups can be established as a general tool of this technique, it is possible to impose a preliminary control over the composition of the people who eventually come—by the simple device of working out how many of each subgroup should be asked in order to get the required number of them. The second stage of control is exercised after testing has been completed: the volunteer sample is adjusted or trimmed by a process of re-weighting to give a more exact representation of the total population in terms of the control variables. This adjustment may be large or small according to the success of the first stage of the control system. In the event of turn-up rates (by age, sex, and occupational level) not being known, it will be necessary to control sample composition solely by re-weighting after the completion of testing. At the same time, several uses of the technique should provide approximate figures on turn-up rates, and so allow the two-stage control to be set up. Its advantage is that it provides a sounder statistical base to work upon.

• The letter of invitation should be standardized, for only in this way can stable tactics be developed for dealing with biased self-selection. There is no need to tell the invitee, at the time of writing, that tests will occur or to mention anything about the subject of them. It is enough that the invitees know that at the meeting they will see and vote on several entertainment programs and that the meeting will end with general discussion of programs.

• Once in the test room, group members cooperate to a remarkable degree, completing knowledge and attitude tests, reacting to program material, writing down answers on whatever is asked about, and even completing intelligence tests. These are ordinary people and their behavior in the test room makes it clear that the research man has in them a tremendous asset—though one that is too little used.

• The group-testing technique can be both inexpensive and fast—both essential if research is to be linked on a regular basis to the demands of the programer for speedy results.

MEASURING EFFECTS OF PROGRAMS WITH RESPECT TO THE COMMUNICATION ACHIEVED

Preparatory studies of the kind I have described can predispose us toward making correct decisions about program content. That is a major advance on hunch and guesswork. Taken alone, however, they cannot guarantee that the decisions we actually take will in fact work out as successfully as we want them to. Some test of their efficiency is certainly necessary. True, such tests yield what may fairly be called "wisdom after the event." But wisdom of this kind is transferrable: If we are able to learn **where** we failed in a particular production and **why**, that knowledge must temper our decisions in our next production. I do not consider it necessary or desirable to test all or even most productions in this way. But the periodic measurement of effects on a carefully selected basis is an essential element in the development of reliable principles of mass communication.

The measurement of changes produced by the program is much more difficult to achieve. It must of course be geared closely to the

aims of the program but yet leave room for the discernment of effects which were not intended. In all probability the study of change wil be linked to the respondent's **knowledge of facts presented** and his attitudes in relation to the issues dealt with in the program. Decisions about the precise nature of the tests to be administered can only be made in close liaison with program staff and after careful scrutiny of the program as broadcast and of such permanent records of it as are made. This demanding process is, however, only one of the several problems involved in the measurement of effects. The central problem concerns the technique for isolating the effects of the program from other things.

ISOLATING EFFECTS

Let me start with what **cannot** be done. A fairly simple-minded approach to this problem might involve testing people before and after exposure to the program, perhaps with a "control" group tested in parallel with them to control the effects of influences other than the program itself. This, however, is full of dangers. (1) the original test can hardly fail to condition the respondent's reaction to the program: Confronted with the program he suddenly finds himself given the answers to the questions recently put to him. When soon afterwards he is tested again, his performance will be influenced both by the fact that he has already been tested on the same questions and by atypical exposure to the program. (2) Over and above this there is the administrative problem of not knowing how many of the people originally tested will not in fact happen to see the program. This could be distinctly wasteful and, considered statistically, it could be hazardous.

The measurement of effects must o c c u r after completely normal exposure to the program if we are to talk meaningfully of its effects. The method which I have been using to meet this requirement is the stable correlate technique: I have described it in technical detail elsewhere, but its central features in this context are as follows:

- All measurements are carried out **a f t e r** the broadcast has occurred; at the time that certain people decide to watch it and others don't, no contact has been made with them and they cannot possibly be aware that a test will occur.
- On the d a y following the broadcast, numerous interviewers go out, asking people about last night's viewing, and collecting name and address and a few basic details from each respondent. The interviewers don't know the real purpose of the exercise a n d certainly are not aware of any special interest in any particular program; nonetheless this information serves to separate exposees and non-exposees.
- Samples of these people are then invited to attend a meeting which is described as ending "with general discussion of television programs," which gives no other indication of what it is about, but which carries certain extraneous inducements to attend.
- The necessary tests are then administered u n d e r conditions very similar to those described under "planning studies."
- Along with these tests a wide range of information about the respondent's background and experience is gathered and from this is developed a composite of the correlates of test score. This composite maximizes the numerical association between test score

and the respondent's characteristics and it is in terms of this composite of characteristics that matching is carried out. In other words the two samples are matched in terms of a large number of characteristics of proven relevance to test score. The matching is by weighting-up and not by casting out. The residual difference between the two samples is then regarded as approximating to the effects of the program. A fresh matching composite is developed for each test score.

- Certain devices are built into the technique to determine the extent to which the isolation of effects has been complete.[8]
- The variables which have in fact emerged as correlates have been highly varied, and are numerous. A list of the more recurrent would include the following: occupational state and level, educational details, intelligence; marital state, age, sex; newspapers taken, library or club membership; whether or not respondent has ever been out of the country; length of residence in his present district; ownership of things such as the house he lives in, a refrigerator, a car, a sewing machine; family composition and the number in the house who go out to work; number of brothers or sisters as a child . . .

Putting it briefly, the technique has the following main features:

- Exposees and non-exposees are tested after completely normal behavior in relation to the program (no pre-tests, and no idea that tests will occur).
- It is recognized that differences in test score between exposees and non-exposees will have arisen partly out of the fact that the two samples were probably not the same to start with and partly out of exposure to the program.
- The two samples are then matched in terms of the correlates of test score in order to rid the comparison of purely extraneous differences (i. e., to isolate the effects of exposure to the program).

Thus the stable correlate method embodies an "after-only" design and a form of empirical matching of a sample of those who happened to become exposees and a sample of those who didn't. (It may of course be possible to cut out experimental effects in another manner—namely by testing quite different people before and after the broadcast. These two sets of people would be closely matched and adequate controls would be used to assess the contribution of purely extraneous events (occurring in the period between the testing of the two groups) to the difference between the before and after measures. Provided it works out, this sort of method is bound to give greater stability to a research finding. It does however have several disadvantages. One must know **beforehand** precisely what is going to be in the program as broadcast—for the simple reason that the tests before and after must be identical; but so often one does **not** know beforehand because a program may be changing its content right up to the last moment. One must of course go to the extra trouble of finding out **which** of the pre-tested people eventually watched the program. This in turn raises a tactical problem in that one does not know if enough of the pre-tested people will eventually turn out to be viewers for the inquiry to have an adequate statistical base.)

While testing of the sort required can sometimes be done through survey methods it is better and less expensive to do it under test-room conditions, and

much of the study of effects done by the BBC was done in this way. The test-room procedure closely resembles the group testing methods I described under "charting studies."

THREE STUDIES OF EFFECTS

To illustrate the sort of finding which can emerge from studies of effect, I have set out certain of the features of three inquiries of this kind. These follow.

Britain's industrial position—One program which was studied in this way dealt with the decline of Britain's industrial position in relation to the rest of the world.

In the absence of hard facts about the causes of Britain's decline in this respect, the program director put before the viewer a series of speakers, each presenting his particular point of view about the causes. It was hoped that this presentation of "all sides of the issue" would increase the viewer's range of ideas about it and so facilitate a balanced judgment. This does not appear to be what happened.

(1) In the first place, wherever there was a direct conflict or a sharp difference in the opinions presented by these different people, there was no increase in the number of the viewer's ideas about the matter concerned. There was, if anything, a shrinkage in the range of their ideas. What appears to have happened is that the viewers, who were distinctly partisan in this matter, took sides. They tended to store up the ideas of their champions, and to learn from them how to reject opinions which previously they had tolerated. Thus where there was conflict, there was some entrenchment of existing ideas. (2) Where change **did** occur, it tended to be where all parties were in agreement (e. g., concerning the fundamental assumption that relative decline **had** occurred; concerning the belief that part of the cause was a lack of understanding between labor and management). (3) One other finding emerged. There was a small over-all increase in the viewer's knowledge of some of the facts presented and a small decrease in their knowledge of others. The decrease seems to have resulted from an apparent conflict between the facts on one hand and the concerted belief of the speakers on the other.

The strategy adopted in that program turned largely upon the intellectual notion of presenting all sides of the issue—in the faith that the person presented with them all will then make his mind up in a more informed fashion. In this instance it did not work out in this way, and one does not have to look far in the detail of the findings—or in the literature of psychology for that matter—to understand why. People so often work their will upon the material presented to them, selecting and reorganizing according to their own position.

A program on moral standards—This same selective process came out quite strongly in connection with a program aimed at answering whether or not British moral standards had declined. In this program the viewer was presented with a certain number of instances of moral "improvement" (so interpreted by program staff) and considerably more instances of what was described as moral decline. Under "improvements," the program dealt with things like care of the aged and the unfortunate, with soberness, social conscience, kindness to animals. Under "declines" it dealt with crime, gambling, petty theft, fare evasion, tax dodging, the use of sexy advertisements in commerce, prostitution, sex outside of

marriage, illegitimacy, divorce rates. As part of the test of effect, exposees and non-exposees were asked to enumerate instances of decline and instances of improvement. The results indicate that this program increased by nearly 50 per cent the viewer's ability to enumerate instances of improvement and that it did not increase the viewer's relatively meager stock of instances of decline—indeed, it reduced it. In other words, viewers added to their stock of "improvements," but not to their stock of "declines"—in spite of the fact that the bulk of what was offered to them were instances of decline. The significant element in all this is that the viewers were not of the opinion that their morals had declined and they appear to have selected in line with this position. Not all of the viewers' reactions were selective, however. In some cases they just disagreed with the producer about the implications of the evidence put before them. One example of this concerned the presentation of old people receiving free soup from a welfare center. This was meant to depict an improvement in the treatment of impoverished members of society. Viewers, however, saw it as a bad state of affairs and not as an improvement. Presumably there was some difference in outlook between program staff and viewers.

A program on going to France—In another series of television programs, the intention was to interest people in taking a trip to France, to remove or to reduce the viewers' fears about language difficulties and to teach the would-be travelers a few useful words and a few useful facts (like how to change travelers' checks, how many francs to the pound, using taxis, and the underground railway system, and so on). It was broadcast during the day and received mainly by housewives. Before seeing programs in this series, there was an appreciable degree of interest in going to France. The program **reduced** this interest substantially. It also **increased** the viewers' fears about language difficulties. There was an increase by about 5 per cent in the viewers' knowledge of the words and of the facts presented. This increase in knowledge may be regarded by some as relatively satisfactory, but it falls far below what was expected. The other two results can only be regarded as failures, and accordingly an understanding of the way in which this happened is important. The evidence collected at the time of the inquiry suggested that viewers of the program were rather disturbed at the idea of having to learn French—so much of it—in order to go to France. It was not one of the things they had thought much about or considered necessary. Moreover, they were faced, through this series, with the problems of customs arrangements, of money exchange, of porters racing up to grab the luggage, of taxi drivers who charged too much, of rather odd breakfast habits, and with hints of possibly over-romantic Frenchmen. Neglecting the last point, one interpretation of the results was that the series had been off-putting in its realism. The increase in apprehension about language difficulties seems to have been accentuated by the fact that the two people teaching it spoke the language like natives. You could understand a common reaction to this: "Well, if that's what I have to do, I haven't got a hope."

Now I think it is quite clear that this program was not geared to the existing state of mind of the target audience. As it turned

out, production staff were simply not aware of this state of mind or of the attitudes of the target audience. And the pity of it all is that simple inexpensive research, conducted at the appropriate stage, could have told them what the situation was and put them in a position to handle it successfully. It may, of course, have meant that the program didn't go on at all for the problems that were imagined as existing simply were not there. But if it did go on, this sort of research would have indicated just where to concentrate the effort on communication and persuasion and what might best be left alone.

Some Implications of These Studies

These three programs are by no means selected out of the midst of more successful stories. The general body of the work which has been done constitutes a strong case for the continuance of periodic checks of this kind. It indicates too, that in the course of such work, there becomes available considerable information about communication processes and about relevant aspects of the mentality of viewers and of program staff alike. Nor can anyone help but see from the program studies I have presented that preliminary studies of the target audience (of the kind I have described) could have paid off very well.

SUMMING UP

In conclusion let me say again that the two methods I have described by no means exhaust the list of research tools available to the programer who is really interested in communicating with his audience. There are available various methods for pre-testing program material, for measuring its comprehensibility, for assessing appreciation of programs, for measuring the size of the audience, and so on. But even considered alone, these two methods can, between them, contribute to efficiency in no small way. Charting studies may well be essential in any study where the characteristics of the target audience are not well known, or where over-ambitious or out-of-touch program staff are likely to be involved.

Whilst "effects" studies are in a sense "wisdom after the event," they are essential both to the detection of failure and to the long-term build-up of a science of communication through television.

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1 "Communication and Persuasion," Business Review, March 1961.

2 "Value and Need as Organizing Factors in Perception," J. S. Bruner and C. S. Goodman, Journal of Abnormal Social Psychology, 1947, pp. 33-44.

3 "The Relation of the Intensity of a Need to the Amount of Perceptual Distortion—A Preliminary Report", R. Levine, G. Murphy, I. Chine, Journal of Psychology, Vol. 13, 1942, pp. 283-293.

4 "The Influence of Past Experience on Visual Perception", K. W. Brady, Journal of Experimental Psychology, Vol. 16, 1933, pp. 613-643.

5 "Learning and Attitude Change Resulting from Viewing a Television Series, Bon Voyage", Journal of Educational Psychology, 26 (1), 1956.

6 "Topic for Tonight: a Study of Comprehensibility", The BBC Quarterly, 8 (2), 1952.

7 The Ideas of the Television Public about Mental Illness", Mental Health, 16 (3), 1957.

8 "The Hurt Mind", W. A. Belson, Audience Research Department, BBC, 1957.

9 "Race Relations in Africa", Parts I & II, W. A. Belson, Audience Research Department, BBC, 1952.

10 "Facts & Figures", Part I, "Knowledge of Words", W. A. Belson, Audience Research Department, BBC, 1954.

11 "Talking of America", W. A. Belson, Audience Research Department, BBC, 1952.

12 "Evolution: a Pre-Broadcast Study of the Knowledge and Attitudes of the Viewing Public", M. Beeson, Audience Research Department, BBC, 1958.

13 "Developments in Survey Methods: The Use of Self-Completion Questionnaires in Random Surveys and Some Other Techniques for Gathering Information", a paper read at a meeting of Social Psychology Section of British Psychological Society on 28.4.1956.

14 "Volunteer Bias in Test-Room Groups", Public Opinion Quarterly, 24 (1), 1960.

15 "Research Methods", Business Review, June 1961.

16 "Matching and Prediction on the Principle of Biological Classification", Applied Statistics, 8 (2), 1959.

Technological Advances, CCTV, and Compatibility

-- *How do they equate?*

By **Robert A. Miner**

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In March of 1961, Ampex demonstrated a prototype VR-8000 closed-circuit videotape recorder at its engineering laboratories in Redwood City, California. Since that time, there has been a great deal of discussion about the usefulness and applicability of this product to the field of closed-circuit television. Such discussion appeared in an article here in the **NAEB Journal** (May-June issue, page 58).

Since manufacture of this new recorder did not begin until August, 1961, this discussion has been carried on without benefit of actual contact and observation of the production unit in action. As a result, the conclusions drawn about the capabilities of the VR-8000 have not been based on detailed, first-hand product knowledge.

TECHNOLOGICAL ADVANCES

The VR-8000 closed-circuit videotape recorder incorporates two major technical advances which have caused a great deal of the discussion about this unit. One is the ability to record television information on one-half the amount of tape required by broadcast machines. This means a 7½ inch per second (ips) tape speed for the VR-8000 instead of the conventional 15 ips broadcast tape speed. In view of the increased requirements of educational institutions for storing TV material, in comparison to broadcast activities, it seems quite apparent that tape cost in any closed-circuit television system is one of the major, if not the largest, operating cost. A 50 per cent reduction in this cost, therefore, is a very real and a very important savings to any institution operating a closed-circuit system. An analysis of the tape requirements at existing closed-circuit installations with videotape recorders confirmed the great desirability of reducing tape costs.

Utilizing the technological advance of a 7½ ips tape speed meant that tapes thus recorded were not interchangeable with

those recorded on a broadcast recorder. Since tapes would not be directly interchangeable between the two machines, as a result of tape speed, the opportunity then existed to employ another technological advance directed toward simplifying the recorder to the maximum possible extent. The "single head-helical scan" recording technique provided the opportunity for major simplifications in both the mechanical and electronic elements of television recording systems.

TECHNOLOGICAL ADVANCES vs. COMPATIBILITY

It is primarily the incorporation of these two technological advances in the VR-8000 which has been the center of discussion about the unit. Some discussions have taken the view that the introduction of any recorder incompatible with broadcast machines—regardless of the technological advances incorporated and the benefits of such advances to the field of application for which the machine was designed—is a "shattering note." This is to say that the introduction of a product incorporating technical advances—if it is not compatible with the old—is automatically unacceptable. It follows, then, that any changes in the automobile engine, for example, from its original form—changes which were incompatible with the original design, such as requiring a higher octane gasoline than could be used in the old engine—should not have been made. Is this really true? Would we, the car buyers of today, really like to give up today's automobile engines (using fuel which is incompatible with the fuel requirements of 1900 vintage engines) in order to avoid the problems of incompatibility?

This "barring of technical advances" from a product because it is incompatible with the old would have changed the whole evolution of sound tape recorders. The early audio recorders operated at a tape speed of 30 ips, were housed in a console about the size of a kitchen range, cost upwards of $4,000, and required a skilled engineer to perform the many adjustments to get the maximum performance. These units were primarily sold to recording studios and radio networks requiring a maximum of sound quality, ease of editing, and were placed in establishments employing the required skilled technicians. These machines established the original audiotape standards.

After this standard was established, however, research was not turned off; technology did not stand still. Manufacturers learned how to get the same response from a tape speed of 15 ips. Machines were marketed which were "incompatible" with the original standard. But, because of the lower tape speed and advancing technology, they were simpler, 60 per cent lower in price, easier to maintain, and used half as much tape, and therefore, had half the operating cost. These newer recorders did not meet the needs generally of the recording industry, but did meet the needs of radio broadcasters—most of whom could not afford and did not need all the features of the original machine. Lack of "compatibility" did not restrict the usefulness of the 15 ips machine; in fact, compatibility would have prevented the majority of radio broadcasters from ever using tape recorders because of higher purchase and operating costs than they could economically justify.

But this was only the first step in the tape recorder evolution. Consider the restrictions placed

on schools if technological progress had been stopped by compatibility, thus eliminating 7½ and 3¾ ips tape speeds and the accompanying recorder simplifications (also incompatible with any other standard). How many schools could afford a 30 ips $4,000 sound tape recorder? What about the home tape enthusiast and his benefits from ½ track tapes, the language lab and 2 track tapes, the stereo enthusiast and ¼ track tapes—all of which are incompatible.

Even tape speed does not tell a complete story about compatibility and sound tape recorders. What about mechanical performance—flutter, wow, etc.? The recording studios and radio broadcaster needed a precision machine to minimize these mechanical defects. Machines were designed to meet these needs, but precision costs money. On the other hand, the schools and home enthusiast did not need this precision and could not pay for it. Machines were, therefore, also designed which did not meet broadcast or recording studio needs but adequately met school and home needs. The fact that a school might occasionally want to broadcast a radio program did not mean it had to wait until it could afford a broadcast machine before it could realize the benefits of a sound recorder in its classrooms. Instead, schools have purchased a recorder in keeping with their major needs—teaching—and found other ways to cope with an occasional broadcast requirement.

The fact that there has evolved a variety of standards in the total audiotape recorder field has not isolated those using one particular standard in a box, cut off from all other standards. The bridge from one standard to another is constantly being crossed. To begin with, tape exchanges from one institution to another seldom if ever involve the use of "master" tapes. Instead, a "dub" is used regardless of whether the exchange is to the same or a different standard. Utilizing a dub for exchange immediately makes the "standards" bridge simple to cross —the dub is made to the required standard.

One might be inclined to conclude from this that every user who is considering the exchange of audiotapes must have a recorder for every standard. We all know this is not the situation yet audiotape exchanges are commonplace. How come? Primarily because a particular standard has been developed to meet the needs of a particular user group. The common exchanges are within that particular user group and are, therefore, on the same standard. Occasionally, exchanges are made to another user group with a different standard, in which case the tape to be copied is sent to some duplication center and the copy to a different standard is made. For example, a school may use a 3¾ ips standard in its language laboratory. It can readily copy tapes on its own machines for exchange with other language labs, but may have to send its master tape, for example, to the local educational FM station for copying to 7½ ips or 15 ips for broadcast use. The existence then of many "incompatible standards" is a common occurrence in our everyday life. It is even a common occurrence in the field of magnetic tape recorders. The examples cited serve to illustrate that in general, society—and more specifically, magnetic tape recorder users—has enjoyed benefits from these "incompatible standards" which far outweigh any disadvantages caused by lack of compatibility; that in fact,

means have been devised to overcome incompatibility problems in order to realize these benefits. Standards are indeed aimed at bringing order out of disorder; they are not, however, intended to stop progress and are always subject to review as technology advances.

CCTV REQUIREMENTS

Now let's take a realistic look at an institution with CCTV. The primary use to which such facilities are put is the presentation of material for the students of that institution. The chances are that the decision to spend money for CCTV was a desire on the part of the institution to present precisely the material it needed in the manner best suited for its needs. A further consideration was probably the fact that the precise material it needed was not available from a source outside the institution itself. So the decision was made to utilize closed-circuit television as an instrument to aid the teaching and learning process. The job to be done in aiding education establishes some guideposts in the selection of equipment to perform the job. To begin with, television is so familiar to everyone that there exists, at least subconsciously, a picture quality standard of acceptance. Educational CCTV, therefore, needs to provide the highest possible picture quality in order that substandard quality will not limit the educational opportunities.

Since educational institutions are not in the "business of television," they cannot normally justify the same degree of technical skill for operation and maintenance that commercial enterprises can justify. Closed-circuit television, therefore, needs equipment which is the ultimate in simplicity and reliability.

Let's pause and consider this matter of simplicity in more detail. Closed-circuit television employs a direct-wire connection between the camera and monitors. There is no "fringe area" problem and no atmospheric noise condition for the television signal to contend with as there is in a broadcast system of television communications. The FCC and similar regulatory bodies, the world over, have established tight specifications for signal characteristics, including synchronizing pulse stability for broadcast television. The synchronizing pulse stability specification is essential in television broadcasts in order for the signal to provide good picture stability under adverse noise conditions or in fringe areas. But, since the atmospheric noise or fringe area problems do not exist in closed-circuit television, it is only necessary to utilize enough synchronizing pulse stability to provide good stable pictures under closed-circuit conditions. It is possible to realize major economies in the manufacture of some television equipment, particularly a videotape recorder, through providing sufficient synchronizing pulse stability for the stable closed-circuit use and eliminating the additional—unused—stability required for broadcast. This is perhaps analogous to a home refrigerator that might require a ½ horsepower motor for proper operation. If the ½ horsepower motor also provides a margin of safety, one would seriously question the need to use a 5 horsepower motor. Similarly, it is difficult to see the wisdom of burdening an educational institution with additional costs and electronic complexities beyond those required to produce high quality pictures—picture quality which is higher than the best picture as viewed on home receivers. Yet burdening CCTV videotape

recorders with enough synchronizing pulse stability to meet broadcast specifications is doing just that.

In addition to requiring the highest possible picture quality, simplicity, and reliability, educational institutions using CCTV have one more important requirement. Economy—economy at the time of purchase, economy in operating material, economy in maintenance, but not economy at the sacrifice of quality.

As pointed out earlier, the main purpose of a CCTV system in an educational institution is an instrument to aid the process of teaching in its classrooms. In preparing, using, and storing material for use in this system, it would be highly desirable to allow for the future and have the ability to join in the networking of televised lessons with sister institutions, and the occasional broadcasting of material stored in the television library.

MEETING CCTV REQUIREMENTS

In the light of this background on compatibility and the requirements of a CCTV system, let's examine the VR-8000 to see how it fits. The first requirement to be considered is picture quality. Several factors are involved in a discussion of television picture quality. One factor is television bandwidth. Considering the Ampex VR-1000 series broadcast videotape recorders as a standard of reference, the bandwidth extends to 4 megacycles while the VR-8000 extends to 5 megacycles. A VR-8000 is, therefore, capable of greater picture detail than a broadcast recorder.

Another factor affecting picture quality is signal-to-noise ratio. The Ampex broadcast recorder has a 42 db signal-to-noise ratio, the VR-8000 has 40 db. The difference is so slight it could not be identified in a comparison of the two units.

A third factor affecting picture quality, termed geometric distortion, covers a variety of mechanical distortions including "skewing," "scalloping," quadrature misalignments, etc. Precision manufacturing and competent operating procedures reduce these distortions to a minimum in the reproduced picture on a broadcast recorder. The "single head" construction of the VR-8000 minimizes the opportunity for this type of picture imperfection to even occur.

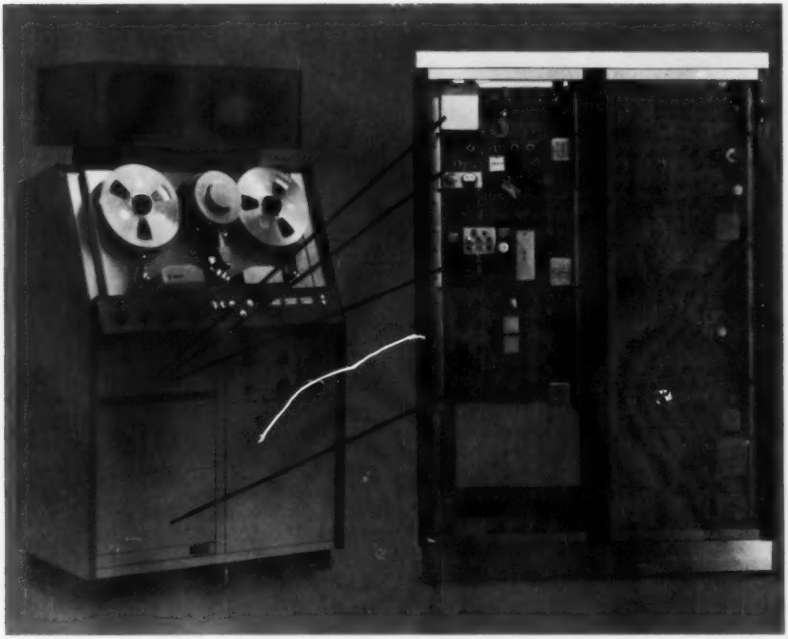
Still another factor affecting picture quality is picture stability —freedom from "jitter." All television receivers and monitors have a built-in electronic "flywheel" system, somewhat analogous to a mechanical flywheel in a gasoline motor, to eliminate picture defects in case a few synchronizing pulses are lost due to noise and similar interruptions. Stable pictures, free of jitter under closed-circuit conditions, are produced from a videotape recorder provided the synchronizing pulses are sufficiently stable that they fall within the corrective range of these electronic "flywheel" circuits. The corrective action of these circuits extends over a much wider range than the narrow tolerances specified by the FCC for broadcast purposes in order to compensate for fringe area noise and interference signals; therefore, broadcast machines fall well within the limits required for stable closed-circuit pictures. The VR-8000 also falls well within the corrective action of these circuits and produces stable pictures with a margin of safety.

In summary then, the VR-8000 will produce pictures under

closed-circuit conditions which are equal to, and in some cases exceed the picture quality from a broadcast machine. The VR-8000, therefore, meets this requirement for closed-circuit installations and does so at a capital cost saving of over 50 per cent compared to broadcast machines in use today.

The second requirement to be met by closed-circuit educational television components is simplicity, and reliability. The two factors go somewhat hand in hand. The simpler a unit is, the less there is to fail and decrease reliability. The degree of electronic simplicity achieved in the VR-8000 is graphically illustrated in the accompanying photograph and is the result of several factors.

One factor is the elimination of several electronic functions which are not required in a closed-circuit videotape recorder. Additional electronic functions are eliminated as a result of the "single head-helical scan" recording technique. A third factor contributing to simplification is the transistorization of video and servo system electronics. The combined effect of these factors is a physical reduction in the space required for electronic chassis



At left is the VR-8000, completely self-contained in one cabinet with all electronics. At right is the "electronics only" dual-rack cabinet required for broadcast recorders. The right-hand rack of electronics in the broadcast unit has been eliminated entirely, while those in the left-hand rack have been transistorized and telescoped into pull-out drawers in the VR-8000.

from two racks in the broadcast recorder to approximately one foot of rack space in the VR-8000. The photographic comparison of replacement head units is a further illustration of the VR-8000's simplicity.

At the top is the replacement video head for Ampex broadcast recorders. At the bottom is the replacement head for the VR-8000.

From a maintenance point of view, the simplification achieved in the VR-8000 greatly reduces the requirements for attention and adjustments by the closed-circuit user. For example, a broadcast recorder will have 150 or more maintenance adjustments. The VR-8000 has 24.

From an installation viewpoint, the VR-8000 is again appreciably simpler. The single self-contained console is on casters and can be rolled to its point of use. Power requirements are approximately a third as great as a broadcast recorder, allowing a VR-8000 to be plugged into most convenient outlets. Since power consumption is reduced, heat dissipation is also lower. The amount of heat generated by the total unit is no more than that generated by many electric irons. Seldom, if ever, will special air-conditioning be required.

Again, in summary, the VR-8000 meets the closed-circuit requirements for simplicity and reliability and does so at a capital savings of over 50 per cent in comparison to broadcast machines.

Economy was another requirement for CCTV components—but not economy at the sacrifice of quality. It has already been established that the VR-8000 provides equal if not better than broadcast quality for closed-circuit television. What about economy? From an original investment viewpoint, the VR-8000 represents a savings of over 50 per cent. But purchase price is only the first cost; a major operating cost is tape cost. This is particularly true if televised material is to be stored. Use of a VR-8000 for CCTV represents a 50 per cent saving in tape costs. The cost of tape to store a half-hour closed-circuit lesson on a **broadcast** videotape recorder is about $110 at prevailing tape prices. The film and processing cost of storing a kinescope copy of this same lesson averages $65-$80 according to a recent survey. The material cost of storing the lesson on a VR-8000 tape is $55, again at prevailing tape prices. The savings in tape costs alone when storing just two hours of CCTV material per week, represent a savings over a two-year period equal to the price of a VR-8000 when this material is recorded on a VR-8000 instead of a broadcast machine. The savings in storage media costs by storing seven hours of televised material per week on a VR-8000 instead of a kinescope, equals

the price of the VR-8000 over a two-year period at prevailing prices.

Another important operating cost is the replacement video magnetic head cost per hour. The use of a VR-8000 for closed-circuit television represents a 75 per cent reduction in video head costs per hour over broadcast machines.

Perhaps the clearest summary of the economic advantages of using a VR-8000 instead of a broadcast recorder in closed-circuit applications is to examine costs for a hypothetical case example. Let us consider a case wherein, during the first year, two hours of televised material are produced per week. This material is recorded in advance of scheduled student viewing time and is played back twice for two different groups of students, then stored in a television library. The next year, two more hours per week are added to the library, etc. Over a five-year period, total expenditures for a VR-8000, tape, and replacement heads equals $80,000 or averages $16,000 per year. This same material, if recorded on a broadcast recorder and including the same factors would require an expenditure of $175,000 or $35,000 average per year.

CLOSED-CIRCUIT RECORDINGS FOR BROADCAST AND EXCHANGE

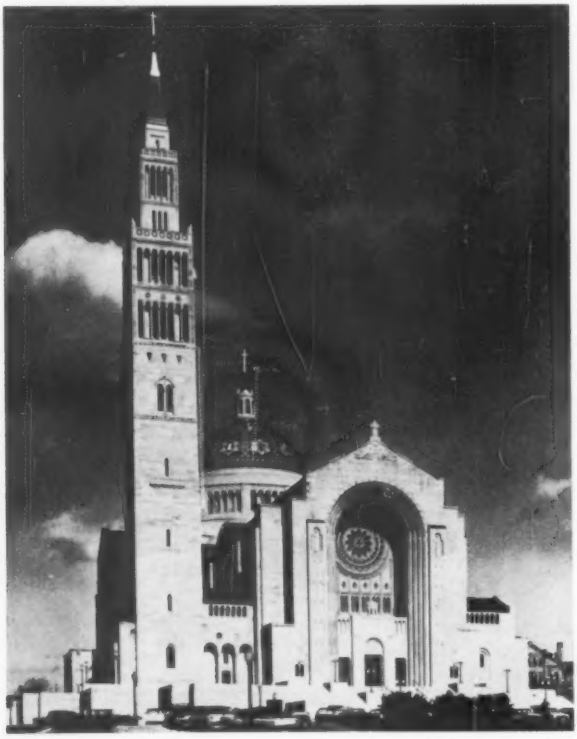
What about the future? Is a CCTV library stored on VR-8000 tapes forever boxed in and irrevocably lost for broadcast purposes? Absolutely not! Any VR-8000 recording may be played back on a VR-8000, dubbed or copied on a VR-1000 series broadcast videotape recorder with Inter-sync and the resultant tape played back on the VR-1000 will meet the FCC requirements in all respects. This tape can be used for on-the-air broadcast purposes. Previous compatibility discussions about the VR-8000 have not taken this ability into account. This means that all of the utility, economy, and simplicity of VR-8000 use can be realized by the educational institution with a CCTV system. On any occasion in which that institution wishes to broadcast material stored on its VR-8000 tapes, it need only copy its tapes from a VR-8000 to a VR-1000 with Inter-sync. In many instances, educational institutions will have a television interconnection between their studio and a broadcast television station. When this station has an Ampex VR-1000 series recorder equipped with Inter-sync, a VR-8000 in the educational institution's facilities can feed the television line to the station. In this case, the copy for broadcast use can be made on the station's broadcast machine. In other cases, facilities exist to perform this duplication service much as commercial firms make kinescope copies.

The other aspect of tape interchange—that of exchanging material with sister institutions—will most likely parallel the existing pattern of audiotape exchange. It is not likely that institutions will exchange masters, but rather copies will be exchanged. A great many exchanges will be to the same standard, particularly institutions under the same administrative jurisdiction. If the exchange does involve crossing a standards bridge, then the copy can be made to the required standard—again parallel to the exchange of audiotapes.

SUMMARY

In final summary then, one can find a parallel between the evolution which has successfully taken

place in the total sound magnetic tape field and the evolution which is beginning in the television magnetic tape field. In the sound field, the second standard to come along in the evolution was incompatible with the first. Such was also the case with the third standard, the fourth, and so on down through today. In each case where a new standard was developed, it was done for the convenience and economy of a new field of application. Historically, tape exchanges and the bridges between standards have been crossed back and forth with a minimum of effort and inconvenience. In the end, the user of the new standard received far more in benefits than he lost in inconvenience due to incompatibility. And so it can be with videotape standards. The VR-8000 offers the closed-circuit user substantial reductions in purchase and operating economies, along with greater simplicity. He faces no more "standards" restrictions than the user of audio recorders has historically faced. He will receive far more in benefits from the VR-8000 in his closed-circuit work than he will lose because of incompatible standards with broadcast equipment. He has gained because of technological advances working to meet his needs.



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The NAEB's Role

. . . *in the world of today*

By Harry J. Skornia

Associate professor of radio and television, University of Illinois. Formerly NAEB president. Taken from his keynote address at the 1961 seminar on the NAEB, at the University of Wisconsin, in July.

We have a couple of dilemmas we have to think over.

One of them is the fact that we can't concern ourselves only with what our institutions and our stations do, because we've got to concern ourselves with the over-all information and education job that is available in the country. And that is affected very greatly by what the commercial media do too, so we can't cease to take a look at and make contributions in that area.

The other one is the dilemma of an association like the NAEB in which we have ideas and we isolate a few problems; we articulate them; and then we find we can't carry them out. We see other people getting money to do these jobs in a way that we sometimes think isn't exactly the right way, reaping great reward and great credit for them, and we're inclined to be a little "dog-in-the-mangerish" about this, I think. We sit on the sidelines and we protest and we kick and we raise the devil. I think if the job is worth doing, we're going to have to realize that there is a certain altruistic role that we're bound to have to fulfill and that if the ideas get implemented, we've done a good job anyway.

Information on the basis of which decisions are made in this country comes to people very largely in terms of the mass media.

In spite of having enormous media machines, Americans are constantly being surprised by such world events as the stoning of Nixon, the blow-up of the Paris summit, the Japanese disinvitation to Eisenhower, Castro events, and all sorts of these things, all of which were pretty largely predictable and which small voices had already predicted. Reporters had sent reports to their newspapers.

I wonder at what point self-deception and ignorance become just as dangerous as brainwashing. For example, I'm increasingly disturbed, as we look at some of these problems, by the absence of materials we get. George Gerbner at the University of Illinois did an analysis of the coverage of a couple of problems by a Hungarian newspaper behind the Iron Curtain and by the **New York Times.** As a matter of fact, he found that in coverage of the big problems that were

going on, of many of the serious significant problems, there was far more treatment and far better treatment in the Hungarian Iron Curtain publication than there was in the **New York Times.** So in this whole journalistic free access to information area, we should cease to be as smug as many of us think we have a right to be, and ask ourselves if we can leave to the commercial media these jobs as much as many of us are leaving them while we concentrate on in-school and other types of problems. And so this is one of the first problems that I think we face, the need to participate in the general over-all media picture.

The enormous job that needs doing must include consideration of what radio and television can do in the schools as compared to what textbook publishers can do, in view of the pressure that is brought to bear on textbook publishers to keep certain things out of books; and the role that it therefore points out with reference to what we've got to do on a timely basis.

Television monopolizes more time than any other waking activity. Now, some people say "except work." I sat down with a pencil the other day and if I take out coffee breaks, I think that television viewing uses up more time than **anything** else in the United States. In January, 1961, 29,172,000 American families on an average were watching television. Two-thirds of the population seems always to be watching television in the evening at some time or another, taking flight from reality very largely—when you look at the programs they are watching or listening to. I think the first duty of the commercial media has been visualized as the pursuit of profits for itself. That isn't the **announced** policy, I agree. Their policy is the education of Americans to the consumership of advertised products and goods. The ultimate in satisfaction is individual, private pleasure. I won't get into the area of the public versus the private areas here. Lazarsfeld and Merton wrote thirteen years ago "since our commercially sponsored mass media promote a largely unthinking allegiance to our present social structure, they cannot be relied on to work for changes, even minor changes, in that structure." Now they were talking about television and radio at a time before it had come to swallow as large a proportion of the attention and the time of the American public. So they made this in a fairly straightforward, calm way. Yet the media now have replaced the town meeting; they have replaced many things; they are now virtually the only available anvil on w h i c h to h a m m e r out many of these changes. Three-quarters of television programing, 85% of radio, 75% of paperback, 75% of popular magazine, are devoted to entertainment, not to any of the problems that I've been talking about.

One of the things I think that we have to take a look at also is the nature of that entertainment, because e n t e r t a i n m e n t isn't necessarily bad either. A Mickey Spillane type of violence for the sake of violence is technique stripped of content. In Shakespeare there can be just as much violence, but it's clothed in human meaning. It isn't violence for its own sake. And I think that when we talk about whether violence or whether entertainment is such and such, we often are just as bad as the defenders of it in the simplifications we engage in in thinking about it. Violence is not bad if it has significance. But if it is simply the titillation of the emotions along the lines of westerns and that sort of thing, then

we are missing the point that obviously life does contain violence; it contains all sorts of powerful emotions; but there is a context in which art and beauty may also contain these things. You take them away and violence by itself, or entertainment, or the titillation of the ribs of the people begins to cease to have significance or it begins to narcotize, as some of the sociologists refer to it. It is minus the self-respecting meaning of love, for example, in the use of sex symbols. Conflict has come to be very important, but here everything becomes a contest or a game or competition. We always seem so conditioned, and I think maybe this is one of the contributions of sports in this country. You think of sports as having certain significance within the athletic arena, but I think it has conditioned people always to look for a winner, and we visualize world problems in a sort of technique and games view in which every newspaper article has to show somebody slugging somebody and winning that particular round. And I'm not sure that it is force; I think very often that it is ideas which at the time don't quite come through which are winning the world struggle.

I think a couple of the mental blocks that we have had ought to be thought about if we're going to take a look at new jobs which the NAEB might do. One of them is the lag between the implications of our physical situation and our present way of thinking. I think Walter Lippmann put it this way: He said, "No American leader in the news, including Kennedy, has explained to the American people the new meaning of power and its changed distribution." It is fairly obvious, I think, that what he means is that it is not armaments, it is not the size of the country, it is the nature of ideas that is today the arena in which the struggle must take place, and that the American people are far too smug in their satisfaction or their belief that they can sit on this powder keg with power because that is not what is going to hold us down.

The other one is our failure to understand the nature of the world revolution which is essentially for freedom from colonialism, freedom from colonialism versus the concept so many people have that the struggle is one against communism. I don't think the answer is free enterprise, which we're trying to spread all over the world. The colonies have had that; they had it under the British; they had it under the Spanish, the Dutch, the French and all the rest of them. It wasn't very satisfactory. They didn't have a very good standard of living; they didn't have very much satisfaction at all; so the economic terms to which we reduce much of this are rather false.

Einstein, a long time ago, after the bomb had gone off, said, "We can only sound the alarm again and again. We must never relax our efforts to rouse in the peoples of the world and especially in their governments, an awareness of the unprecedented disaster which they're absolutely certain to bring on themselves unless there's a fundamental change in their attitude toward one another." And he's talking about democratic countries versus communist countries and versus all the rest of them. "The unleashed power of the atom has changed everything except our ways of thinking." The way people line up across the Iron Curtain or the Bamboo Curtain these days I think is a commentary on the willingness that the NAEB and all the rest of us are going to have to have to sit down at conference tables with people regardless of what

countries they come from. Those of us who are still thinking in pre-1945 terms are going to have to change them.

In this regard I took a quotation out of Lewis Carroll because so many things we're taught these days by the commercial media remind me of this quotation. So many impossible things that we know are obviously false, we hear on the media. Here's the quotation: " 'I can't believe that,' said Alice. 'Can't you?' the Queen said in a pitying tone. 'Try again. Draw a deep breath and shut your eyes.' Alice laughed. 'There's no use trying,' she said. 'One can't believe impossible things.' 'I dare say you haven't had much practice,' said the Queen. 'When I was your age, I always did it for a half-hour a day. Why sometimes I believed as many as six impossible things before breakfast.' " She must have been listening to some of our newscasts.

One of the things that I think people for thousands of years looked forward to is probably the great conversation. It is requisite to democracy. We thought that the mass media would expand, not kill, the town meeting, the old city hall meeting, the meetings in school houses and churches and all the rest. Here was a new forum. Yet the forum everywhere has been crowded off the stage pretty much by the fixtures of show business. We educational broadcasters share the privilege of using electronic media to influence our citizens to adopt appropriate policies. I think that we can't simply say "Well, we're too small" or "Let the commercial media do it" or something else. I think we've got to exercise those roles.

I'd like to give one other quotation. It's from Parkinson who was on the University of Illinois campus about a year ago. He had a good way of explaining that the system of government that we now have, the economic system that we now have, is really nothing permanent. Looking back on what Rome had and Greece and Egypt and Byzantium and all the rest of them, what he tried to get across in his little economic lecture was that the present stage of the United States and its government in our free enterprise capitalistic system is really only a dot in the course of history, that it is wholly unlikely that it will last more than a certain period and that the evidences of deterioration and change are already here. And he says that, viewed in the perspective of history, this is all virtually certain to happen. "There's no historical reason for supposing that our present systems, economic, political, are other than quite temporary expedients." I think that the mass media today have to be the arena in which we hammer out the changes that are to take place; they are beginning to take place whether we like them or not.

To go on to a few of the more explicit aspects of the decision-making, I'd like to begin by quoting Eisenhower in his last speech as President: "We must guard against the acquisition of unwarranted influence by the military industrial complex." He had never said that until Kennedy was elected, although not yet inaugurated. But the fact that in his last speech he talked quite a bit about the same sort of thing that C. Wright Mills has talked about (in **The Power Elite**) indicates that perhaps Eisenhower himself believed that perhaps too much national policy was being made too much by the military and by the corporations into which retired military men moved as presidents and chairmen of the board. I thought it was significant

that in his essentially last strong pronouncement he did make reference to this particular thing. This brings us into how policy-making and decision-making take place. Who makes foreign policy? Who makes national policy? Well, I'm not going to repeat some of the simplifications of **The Power Elite.** But I think there are large corporations and there are sharp rivalries, and I think places like the Center are not free from these kinds of pressures. I remember asking once how much the Center was going to do in the area of conservation. What were they going to do in the area of depletion of petroleum, or the depletion of metallic mineral resources? Admittedly they're free to do anything they want; but they still get their money from Ford which directly or indirectly lives on the exhaustion of both petroleum and metallic mineral resources in this country. And although nobody tells you you can't do it, still there are certain little sensitivities that you are aware of and there are certain things that you are not going to do, I think. And they haven't done it yet. There are large corporations and there are powerful rivalries; much of the policy that is made today is made by "leaks" that are resorted to in advancing the policies of whoever makes the leak, whether it is the President's office with the skillfully placed news leak, whether it is a corporation, whether it is a labor union. We have to take a pretty good look at some of this stuff because we may be reinforcing the status quo, or the corporate system, or a perhaps now outmoded version of democracy that we shouldn't be holding onto so strongly, much too often. We should instead be trying to promote dynamic change. And so it is perception of that type that I think we ought to be concerned with.

A long time ago I began talking about a national academy of broadcasting or even of educational broadcasting, if we had to call it that at first.

As the dictionary tells us, an academy is essentially a society of learned men united to advance an art or science. Following the invention of print, there was a great proliferation of the practice of writing. Every character who could speak or write was beginning to use the language. In France the language was being misused; the people who were concerned, the ministers of education and of culture, believed that somebody must take firm hold of the use of these media—the print media, the use of the language—and begin to draw up standards so that the language could be beautiful and responsive and responsible. Thus came into being the Academie Francaise in the 17th century.

This whole academy concept fits in, I think, rather well with the needs enunciated at the stage we're now at in the broadcast business. We've had years of seeing how these media can be used, and we find that in a great many cases misuses prevail. What is the meaning of a superlative any more? What is the meaning of language? Several people, like Thurber and Crosby, have said that they think our language has about "had it," that you no longer can tell what is meant by what is said. There is then a kind of media chaos which is similar to the linguistic chaos which the French Academy was set up to meet.

So the time is here for the setting of some standards and direction signs. Why should the NAEB begin to carry the ball on this? One of the reasons—I'll talk about

what we might do a little bit later on—is the naturalness of the NAEB and its constituency as a foundation for this.

Somewhere in this country there should be someone to initiate this effort. Let me read from W. W. Rostow about the role of American higher education in relation to developing areas, which appears in the **Educational Record** for July, 1961. He says, "At the present time, some 19 agencies are running international education programs. These are only loosely coordinated in the Department of State. They concentrate excessively on the exchange of persons rather than on the building of institutions within the countries." He lists the various conflicts and he says, "We might consider creating the equivalent of a national science foundation in this international education area. Its task would not be merely to coordinate more effectively than at present the scattered government programs, not merely to relate government and non-government programs, but also to take responsibility for creating new educational institutions for the training of civil servants, agricultural extension workers, industrial managers, and the like."

Relate this a little bit to the need for trained people in **our** field. For instance, there is the need for some sort of responsible handling of foreign scholars who come to this country. We've done the best we could, but the chaotic way in which the picture is put together for them now is really a sabotage of the opportunity that is afforded this country by their visits.

Rostow is calling for essentially an academy in the international educational area, too. In France, to go back there again, there are seventeen academies. I haven't counted how many n a t i o n a l academies there are in the United States, the American academy of this and the National academy of that; there are quite a number. The urgency of our need reminds me of the Manhattan Project of World War II. The Manhattan Project grew from a small idea at the University of Chicago, with Einstein and Fermi. These were people who felt that the good of the country was greater than the good of any one institution.

How do we proceed? We're going to have to do the same thing we did with reference to the Magnuson Bill; we're going to have to get together, and we're going to have to isolate someone, and Lenny Marks or someone is going to have to take a statement or document that we have. Then we're probably going to have to introduce legislation. We're going to have to try to **creat**e an academy. Let's no longer continue to talk about getting Ford money or U. S. Office of Education money; all of us know the headaches most of those bring, and I'm not sure that we want attached to what we do the kinds of strings that those will be. Some of the strings of federal funds are less onorous in many respects, I think, than grants. And I think that during this kind of an administration (you've seen the awareness of the Kennedy administration, the telegrams sent, the statements made, in many cases with reference to organizations like ours, the NAEB, and others) this is the kind of climate we've been asking for in which to take this kind o

I think that what we do then is to take the dis participation that the m mean today and institut ize these media in some way as communication instruments. We need to establish a center which will help the nation to implement the best possible uses of the electronic media on behalf of our country,

and on behalf of all humanity.

The role of a citizen in an age of electronic bombardment and fallout has got to be considered with the utmost concern in relation to education, culture, and understanding. I have the profoundest faith in the potential of these instruments for good in the service of enlightenment, tolerance, and mankind; but the hard thing about it is that this, too, is an altruistic job, and when we get through, the structure I think is needed may not be an NAEB academy. It is likely to be only one more thing that the NAEB helped create. And I expect that if it is the kind of organization that we want, NAEB people will be involved, probably as individuals; but the NAEB may be involved only thus indirectly. It would be a wonderful home for the NAEB to be in such a framework, for example. But I don't think that we can let our own feeling that this should be NAEB's academy prevent us from recognizing the larger job that is needed and trying to implement it. And I don't see very much in the way of immediate returns that it would bring the NAEB. This is the dilemma we so often confront.

John Burns in his speech at the IERT spoke about the need for two and a half billion dollars. I think a lot of what he's talking about could and must be done by the NAEB. I think that he has given a challenge to the NAEB which we can't escape, and we're going to have to take a look at whether we're going to play in the kind of league he visualizes.

The next problem I want to discuss is the NAEB's role in c r e a t i n g a profession. We've talked about a professional home in this country for what will soon be, say, something in the nature of 10,000 people in educational e l e c t r o n i c s—some of them teachers, some of them in broadcast positions, some in closed circuit. I think we're going to have to think in terms of including commercial broadcasters, as well, eventually, because I think the standards that I hope FCC Chairman Minow will bear down on will begin to make it desirable for even commercial broadcasters to belong to a professional society as part of their qualifications for engaging in broadcasting, whether it is an educational station, or a commercial station, or an agency. I think that membership in a national academy of science is not a bad qualification for a person working for GE, for example, and I don't think that membership in a first-class professional association like the NAEB will be a bad qualification for somebody working for NBC or one of the agencies.

All of you who take care of foreign broadcast visitors know how desperately they're looking for a professional home. I'm afraid they're likely to find it in some of the new efforts of the Soviets, as they begin to expand their international broadcasting activities, unless we're able to come up with something which is equivalent to a professional home for these people on a world-wide basis. So I see the need of an international association of educational broadcasting as an association, if not an academy. Let me illustrate: Suppose we start a little group in the Congo or in the Sudan, or wherever we do it. We move in; we create a system; we move out. They say, now what do we do? Well, we send them the **NAEB Journal**; we send them a few other things. We leave these little groups in this island of broadcasting in the middle of Africa with no life line professionally to anything or anyone. We shall see little islands like this dry up, where there are not the roots, the professional life line, the profes-

sional pride that you have. And so I think that this whole professional push is going to have to be a part of our international efforts as well as our national effort. I'm sure that if I were able to visit the stations of Munich and Frankfurt and Berlin and so on, that we could pick up probably several hundred members in a single country like Germany of the very high professional qualifications of most of the members of the staffs, partly on the basis of the fact that when we were over there as occupying powers, we set up for broadcasting in those countries standards that are far higher than those which apply in this country. And I think that, though it might take a little stumping of a few continents, a world-wide membership of perhaps 100,000 eventually is what we should be thinking of in this professional area.

I think there is no shortage of professionals in broadcasting in the United States today. But they're professionals in the wrong things. I think that card sharps are professionals, for example—professional card players. I have a feeling that a lot of the "pros" we have in broadcasting are pros in various other things. They are pros in sales or advertising or pros in how to get around a person's moral or ethical objections; they are experts in subversion; and they are experts in the brutal uses of these media, but not in an understanding in what they are or do to people. I think we don't need professionals in this kind of manipulation.

I think that Minow has articulated some evidence of the fact that the FCC is about to use more of its legally constituted delegated power than in recent years. But anyone who has seen the resilient strength of industry in the past (in the 40's, in the times when the Blue Book was being written and we also had hopes) knows we cannot count on full success until we see evidence of what is being done.

The General Mills spokesman at last fall's FCC hearings gave as good an answer to Minow as any, with reference to what goes into their programs: "Characters should reflect recognition and acceptance of the world situation in their thoughts and actions although, in dealing with war, our writers should minimize the horror aspect." Here is a single sentence that I think reflects the directive given to their writers and producers.

I think we ought to look at Industry influence on education generally, as well as with reference to some of our grants. I ran into an article recently which listed some of the ways in which industry influences education: scholarship programs which affect admissions, grants to departments, sponsorship of or paying for specific research, employment of professors as consultants and advisors, the hiring of graduates and in some cases sending them to school on the job, the making of contracts for special instruction which often result in the creation of new departments, the encouraging of continuing education and adult education programs, representatives of industry on boards of education and trustees, the same on boards of professional societies which set standards and accredit or fail to accredit the various activities from teachers' licenses to professional standards in medicine and so forth. By affecting the standards, the salaries paid, the programs offered, the availability of teaching opportunities and so forth, we see some respects in which industry has an influence on education already.

If you decide to list the effects of government on education, I'm

not sure that the lists of malicious influences that will be exerted by federal aid to education are any greater than some of these. I often think we say federal aid is bad without asking if other types of control may not be equally bad. I'm willing to take a look at all of these, but let's recognize the fact that there seem to be strings attached to pretty nearly every kind of money you get, and that you have to think of the maximum freedom that you are going to have. Right now there are a lot of forgotten pressures that are already being exerted on us.

The difference, I think, between the kind of professionals I've talked about and the kind of pressure industry talks about on one hand, and what we've got to do, lies, I think, in the emphasis on keeping channels open for the tapping and development of resources at all levels throughout the nation. In this respect I think there's a good deal of contrast between the NAEB and the Center, for example, and other large organizations. In larger organizations, the staff is pretty largely counted on for the ideas, and staff ideas are imposed to a far greater extent than has ever been true in the NAEB. A lot of these ideas are not necessarily the best ideas at all. I think some of the ideas that have been implemented with the most money have been some of the worst ideas, as a matter of fact. But even worse, it gets us into the habit of saying, "Well, can we get money for it?" It gets us into a habit of acceptance which can be fatal because we begin thinking only in terms of ideas that we can get money for. I think there are ways of getting money after we decide what we're going to do, and that we should let ideas have their head for a while. I don't think that an idea is necessarily good simply because it's supported by millions, and I think that some of the most highly financed ideas can and may kill us just as dead as if they were foreign-invented.

About publications, I wonder if we're missing the boat sometimes in thinking in terms of a print-journal in national terms, and whether we may not find ways to use our own media that print has not previously been able to do or that print isn't at the present time qualified to do. In other words, are we perhaps not thinking too much in terms of print media when we talk about publications? Should we not be thinking of some unique ways in which our own media could be used to do what print media only have done simply because that has been the tradition? Maybe there are some new forms we could develop; maybe there are some problems that are uniquely fitted to being done by our media. This reveals the double role of anyone in charge of publications, keeping in mind coordination between print and broadcast offerings.

We have another need—that for production experimentation. To my knowledge, no one in this country is engaging in experimentation in production, in production development. I think that there is a very crucial need when I look around and see the lack of originality in the production techniques, and some of the dullness. We now have closed circuit; we now have airplanes flying around; we now have a good many stations; we have radio and television. It reminds me a little of the statement you've heard me make that the only person in this country who is licensed in the broadcast business is the engineer. We insure that it'll hit you, but we don't pay enough attention to **what** is going to hit you. I think a good deal more can be done in this area. I think we need to go

back to an experimental approach and concern ourselves with production and selection a little more.

Then there's the technical field. I think that in the technical area we're going to have to include everything from satellite and stereo and networks and architectural layout to workshops for architects. In the legal area I think we ought to sit down with Lenny Marks and take a look at whether we shouldn't be more positively rather than negatively oriented. But with the exception of our efforts on the Magnuson Bill, it seems to me that we're usually reacting rather than proposing. And I hope in this connection that out of the frequency project we have the courage, if we think that a drastic shake-up is due in the frequency set-up, to ask for what we really think we should have rather than compromise too much in terms and ask for too little. But here again if we're only reacting, or failing to be as courageous as we might be, I think we're not fulfilling the role that we are privileged to fill when we're in the positions that most of us are in. Maybe there is some legislation that needs drafting with reference to rights or postage or various kinds of freedom from pressure. Maybe we should be thinking, "What would be an ideal situation with reference to the copyright situation in education or union regulation with reference to education or others?" because too often we are dealing in terms of somebody else's common denominator. Instead of reacting to what others do, maybe a new, more positive role should be visualized for us in the legal area.

In the administrative area, I think that it was Marshall McLuhan who said that organization charts are now out of date. I'm beginning to think they are. Any of you who have these problems know that decision-making and policy-making within an organization doesn't take place the way it used to take place. And so we perhaps ought to be familiarizing ourselves with people like Richard Meier and Peter Drucker and some of the new concepts of more flexible organization.

What John Burns said, I think some of you may remember I had tried to say for a number of years, except that I thought in terms only of a relatively few millions of dollars. He's speaking, of course, in terms of two and a half billion dollars. He can speak in those terms without being accused of being a dreamer much more easily than I could. And so I am glad that it was he who said what I thought.

But what this little group, the NAEB, has done in view of the pressure and the money available to others, as opposed to us, has been nothing less than miraculous. I think that the progress of the network this last year, for example, in the year when we almost didn't have it, has been nothing less than fantastic, and I'm not sure that some of the things we've done on this network this year aren't illustration of services that have to be kept alive and that might be lost if we gave up this network or sold it or in some way disposed of it.

I think that the frequency study is one of the most important and significant things we've done. I'm sure that in the international area—through the efforts of Harley, Hill, Hull, Marks, Novik, Bronson, Len Press, and other people who have put their shoulders to the wheel this last year in the move to Washington, we have reached new heights. We must have the courage to look out on the plain with the resolution to move decisively.

NAEB

Research
Fact
Sheets

Series I: The Effectiveness of Television as a Teaching Tool

93. Evaluation of Television as a Teaching Tool by Experienced Teachers

By Lawrence Myers, Jr., Syracuse University, 1961, 66 pages. (Supported by the USOE under Title VII of the NDEA.)

This study proposed to evaluate television as a teaching tool under what may be described as minimal conditions of use. Television was used only as a transmission facility to present a lecture to students.

AREAS CONSIDERED

- Examination of certain kinds of educational objectives that might be effectively accomplished by televised lectures.
- Evaluation of a number of personal attributes of an instructor that may be related to his effectiveness in teaching by television.
- Study of the relationships between student achievement and acceptance of the instructional method.

PRODUCTION CONTROL

In order to maintain complete production control over class sections, all experiments were conducted within the framework of an elective liberal arts course. For purposes of these experiments, a superior teacher was arbitrarily defined as one who had a minimum of ten years of successful university teaching and was considered by colleagues to be an expert or authority in the subject selected for his lecture.

Inexperienced teachers were also selected for this study. An average teacher was therefore defined as a graduate student studying in the field of television. His task was to present the same subject matter contained in the lecture by the experienced teacher in the same sequence although not necessarily in the same words.

LECTURE CONTROL

All lectures were carefully controlled as to their content, form, and style. The plan was, generally, to limit the use of the television medium to the simple transmission of a formal 30-minute lecture by a teacher in a studio to a student in a classroom. Each

lecture was introduced by an off-camera voice talking over two title cards, one identifying the Syracuse University Television-Radio Center, and the other identifying the lecturer by name only. Announcer's comments were limited to name and present position of the lecturer in order to avoid as much as possible any "halo" effect which might accompany impressive accomplishments.

STUDENT CONTROL

Considerable control was exerted over the students involved, although few were aware of the intentions and none was aware of the extent. Students were randomly assigned to one of four class sections with control of time, class, and instructor completely in the hands of the administrators. The general plan was to devote two class meetings per week to presentation of material via closed-circuit television, and a third meeting to student discussion led by the classroom instructor. Once a 30-minute lecture was completed, students were required to answer a quiz consisting of factual questions and to rate the teacher and, where appropriate, teaching by television.

CONCLUSIONS

- Experienced or substitute teachers are equally effective in a lecture situation if the educational goal is to disseminate information for immediate retention.
- Experienced or substitute teachers appear to be equally effective in a lecture situation in achieving similar levels of affective behavior.
- Experienced teachers are generally more effective than substitute teachers in teaching students to apply principles, interpret data, and integrate knowledge.
- The superiority of the experienced teacher on personal attributes is overwhelming.
- Television and classroom instruction are generally equally effective when the educational goal is to disseminate information for immediate retention.
- Television and classroom instruction are likewise equally effective when the educational goal is to teach students to apply principles, interpret data, and integrate knowledge.
- An experienced teacher can make the transition from classroom to television with very small losses of activity and potency personality traits.
- Information gain is probably unrelated to communication conditions.
- Attitudinal change may be related to communications conditions.
- Effective television teaching can orient student reaction more favorably toward the medium.
- Students appear to rate the concept "teaching by television" independently from the teacher.

—Doreen E. Parsons

NAEB

Research
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Series I: The Effectiveness of Television as a Teaching Tool

94. Television in Teacher Education

The American Association of Colleges for Teacher Education, edited by Edwin P. Adkins, 1960. 72 pages.

The American Association of Colleges for Teacher Education, in 1956, established under the chairmanship of Dr. E. DeAlton Partridge, a Subcommittee on Television and Teacher Education. One of the Subcommittee's primary concerns has been the investigation of the implications and possibilities for the use of both closed-circuit and open-circuit television in programs of teacher education.

This report deals with these possibilities of television for the education of teachers, for college instruction, and for public schools.

During this AACTE study, the subcommittee pioneered a series of workshops to determine the uses of CCTV in education. The results of the three workshops were important in highlighting areas of common inquiry and in giving direction to further research.

At each workshop the participants observed students in campus-school classrooms over CCTV, and appraised the CCTV value. Classes observed ranged from kindergarten through high school. Also, other possible uses of the medium were observed and discussed.

The subcommittee found that ETV was already in widespread use, and was growing rapidly.

Another finding indicated that the children were reacting better to instruction in such fields as music and art over CCTV than they did formerly when these areas were left entirely to the classroom teacher. In many instances, the purposes of instruction are better served when a college class can observe a demonstration on the TV screen.

Further evidence indicated that when taught by expert well-qualified instructors, there is little measurable difference between the achievement of college students taught in large auditorium-

type classrooms and those taught in CCTV classes, regardless of size.

A field of great interest that involves the use of closed-circuit television is the training of pre-service teachers. Campus institutions can connect their college viewing rooms by coaxial cable with elementary or secondary classrooms of nearby schools. In this way, observation experiences can be provided for all trainees throughout the entire four-year curriculum and in conjunction with various subjects and areas of study.

There is considerable interest and effort among colleges and universities to take advantage of the resources available to them from commercial stations to broadcast:

1) college credit courses, 22%,

2) educational and cultural programs as a community service, 63%,

3) college promotional programs, 57%.

Successful TV presentations on commercial-broadcast facilities require a great deal of time and effort in careful planning and rehearsal. The potential size of the audience and its variety call for the best teachers to meet the high standards demanded by the medium.

Television teaching has created a very strong force toward upgrading the quality of instruction. Necessities for a successful ETV course are: an outstanding teacher and excellent, well-financed production.

Problems of TV teaching:

1) Loss of contact between student and teacher.

2) Financial support.

3) Providing available network time at all hours of the day.

The experiment indicates that television cannot replace the classroom teacher, but it may help him do a better job.

—GERALDINE JOHNSON

NAEB Research Fact Sheets

Series I: The Effectiveness of Television as a Teaching Tool

95. Teacher In-Service Education by Television

By Donald G. Tarbet, School of Education, University of North Carolina, 1958. 27 pages.

This study involves direct teaching to large classes through TV. The experiment was carried out by the University of North Carolina. The classes taught by means of TV included American History, General Science, World History, and Arithmetic (8th Grade). During the 1957-58 year, classes ranged from about 95 to 220 students.

The series, **Methods for Modern Teachers** was planned to be presented over WUNC-TV, the educational television station of the Consolidated University of North Carolina. The purpose of this series was to aid the public relations series of programs, "Know Your Schools," presented by the School of Education of the University of North Carolina during the spring of 1956 and during 1956-57.

In planning the course, a Television Advisory Programing Council for School-Related Programs was appointed by President William C. Friday of the Consolidated University of North Carolina. This committee included representatives of the state department of public instruction, superintendents, principals, supervisors and teachers of public schools, school of education staff members, and WUNC-TV studio personnel. Donald G. Tarbet, University of North Carolina staff, has served as chairman of this committee since it was organized.

The program was presented each Wednesday afternoon from 3:30 until 4:00 during the 1957-58 year. The usual plan was for the staff of a school to view the program and then follow this with a discussion period led by the principal or supervisor. Occasionally entire city or county units used a program as part of a general meeting.

Purpose of the study:

1) To determine if the series of programs presented over WUNC-TV and designed for in-service education of teachers, **Methods**

for Modern Teachers, has been effective and should be continued and expanded.

2) To determine in what areas teachers feel that they may receive the most help through such a series of programs.

Some recommendations were made as a result of the study:

1. The TV programs should be a definite part of the organized in-service education program of the schools.

2. Administrators should prepare for the programs and provide discussion leaders for the follow-up periods.

3. Programs should be carefully planned with regard to interest to many teachers.

4. General methods and techniques, such as the use of audio-visual aids, are of considerable interest. New trends and methods may be stressed in various areas of work or in the area of general methods.

5. Demonstration teaching in classroom situations is very effective.

6. There should be close cooperation between school and TV production personnel.

7. The planning committee for this type of program should include representatives from school systems, state department of public instruction, educational agencies, and studio personnel.

8. Follow-up studies should be conducted to determine the use of the program by the schools.

—GERALDINE JOHNSON

NAEB

Research Fact Sheets

Series V: Content

9: Program Analysis Report

By the Research and Statistics Division of the Canadian Broadcasting Corporation, Ottawa, Canada, May, 1961. 34 pages including statistical results.

This report contains an analysis of all English and French radio and television programs, as well as of those non-network programs broadcast on the CBC-owned television stations during the randomly selected winter sample week of January 22-28, 1961.

RADIO HIGHLIGHTS

- Broadcasting on all three CBC radio networks (Trans-Canada, French, and Dominion) during the period totalled an estimated 506 hours. Programs distributed nationally accounted for approximately 144 hours with the remainder originating from CBC regional English and French networks.

- An estimated 5% of all radio network broadcasting was sponsored. This represents no change from the winter 1959-60 report. This estimate applies only to network programs and does not include any "local" spot advertising that may have been carried on individual stations.

- CBC radio network programing was again overwhelmingly Canadian in origin. The balance of programing was made up of programs produced in the United States (2%), the United Kingdom (3%), and other countries (1%). Contributions from private Canadian stations totalled 1%.

- 65% of network programing was live.

- Well over half of all radio network programing came under the general heading "predominantly entertainment" as opposed to "information" and "ideas and opinions."

- Music was again the largest single form of broadcasting on all three networks, accounting for approximately 44% of the programing. Talks and interviews came a fairly close second with 36% while drama (5%) remained unchanged from previous winter analyses.

- An estimated 80% of all English and French programs

were universal in appeal, designed to please the entire family. The balance was split between "all adults" (16%), children (3%), and teenagers (1%).

TELEVISION HIGHLIGHTS

- Network programing during this sample week totalled an estimated 131 hours.
- Approximately one-third of television programing was sponsored, representing a decrease since the previous winter analysis, when comparable figures were 39%.
- 73% of all broadcasting on the network was produced by CBC, almost all of it live or transmitted by remote or mobile facilities.
- Over one-half of the English and two-thirds of the French network fare came under the heading of "predominantly entertainment" as against "predominantly information." More entertainment-type programing was offered on Saturday than on other days, while "predominantly idea or opinion" was available in greater volume on Sunday.
- While drama remained a favorite form of telecasting on both English and French networks, there appeared to be a marked increase since the last winter analysis in the presentation of talks, interviews, etc.
- Just over two-thirds of all network programing was aimed at everyone. Programs intended for adult viewers only and for children each accounted for an estimated 16%, and teenagers 4%. There were no significant variations in target audiences between the English and the French networks.

—Doreen E. Parsons

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The NAEB began 35 years ago, as a loosely knit organization of a few pioneers in educational broadcasting. As the only professional or trade association in the field, throughout the years it has worked to improve the professional status of the educational broadcaster—and the quality of educational programing. Nine years ago, members established a tape distribution network for educational radio. This self-supporting network today supplies over a hundred educational radio stations with ten hours of programing a week, programs from foreign as well as domestic sources.